

Chapter 1
INTRODUCTION

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1. INTRODUCTION

1.1. Good quality national accounts are vital for economic policy making and research. An important aspect of their quality is the extent to which they cover all economic activities. Exhaustive coverage is difficult to achieve because of the wide range of economic activities, some of which are deliberately concealed from observation by those responsible for them.

1.2. Lack of coverage causes problems for users both in terms of levels and trends. Levels of gross domestic product (GDP) and other data are downward biased, thus giving an inaccurate impression of the economy and impeding international comparability. This can be of great significance in situations where, for example, monetary contributions made or received by a country depend on its GDP or when poverty is measured by GDP per head or environmental standards are measured by pollutant emission per unit of GDP. Similarly, biases in trend estimates can be expected if the economic activities missing from GDP grow at different rates from those included. For example, it is often conjectured that underground and informal sector activities are expanding at precisely the time the official economy is contracting.

1.3. For the national accountants, lack of coverage causes imbalances in the internal consistency of the accounts because parts of economic transactions may be measured whilst other parts are not. For example, household expenditures on goods and services produced underground may be measured because the purchasers have no reason to hide their purchases, whereas the corresponding production activities are not reported by the producers.

1.4. A lot of media attention is paid to the possibility of missing economic activities, and reports often suggest that the GDP figures published by national statistical offices exclude large parts of the economy. These reports challenge the credibility of national accounts estimates and often quote assessments of the underestimation. The problem is that many media reports are based on research methodologies with one, or both, of two major weaknesses. First, these methods frequently fail to define exactly what is to be measured and thus, possibly, missed. This lack of precision regarding the measurement target is epitomised 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. Capital flight, tax evasion, shuttle trade, theft and extortion are all lumped together as undesirable or illegal activities that are being grossly underestimated by the official figures.

1.5. The second problem is the dependence of many estimation methods upon simplistic assumptions that cannot be justified. For example, the so-called “monetary models” assume that changes in the patterns of currency demand can be attributed entirely to, and reflect accurately, changes in missing economic activities. Another popular model is based on 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 to provide more reliable measures.

1.6. One of the reasons that these macro-models get so much attention is that national statistical offices do not explain their own methods sufficiently, and thus users suppose that other methods are needed and useful. This discussion also 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, the parallel economy, the subterranean economy, etc.? What are the best methods for estimating such activities? How reliable are the current figures? Where do capital flight, tax evasion and the shuttle trade fit in? The aim of this Handbook is to provide a common language and to put measurements of economic production 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.

1.2. Scope and Objectives

1.7. The conceptual framework for the Handbook is provided by relevant international standards, in particular the System of National Accounts 1993 (1993 SNA) produced by five international organisations (Commission of European Communities *et al.*, 1993). Thus, the scope of the Handbook is economic production as defined by the 1993 SNA. This provides a solid basis but also implies a restriction on the range of issues that are considered. In particular, as further elaborated in Chapter 2, the Handbook does not include the measurement of many services provided by household members to themselves, such as housework or preparing meals, because they are not within the 1993 SNA production boundary. These are not regarded as being missing production.

1.8. The main focus of the Handbook (Chapters 2-7) is to provide guidance on how to produce exhaustive estimates of GDP. This means ensuring that as many productive activities as possible are *observed, i.e.*, directly measured in the basic data on production, incomes, and expenditures from which the national accounts are compiled. It also means ensuring that *non-observed* activities are nevertheless accounted for, *i.e.*, indirectly measured during compilation of the national accounts.

1.9. The groups of activities most likely to be non-observed are those that are *underground, illegal, informal sector, or undertaken by households for their own final use*. Activities may also be missed because of *deficiencies in the basic statistical data collection programme*. These groups of activities are referred to in this Handbook as the *problem areas*. Activities not included in the basic data because they are in one or more of these problem areas are collectively said to comprise the *non-observed economy* (NOE). Thus, *measurement of the non-observed economy* involves action on two fronts:

- improvements in direct measurement by the data collection programme, resulting in fewer *non-observed* activities and hence fewer *non-measured* activities; and
- improvements in indirect measurement during compilation of the national accounts, resulting in fewer *non-measured* activities.

1.10. Although the main goal of the Handbook is to help statisticians produce exhaustive estimates of GDP, it is recognised that there are many issues in addition to exhaustiveness closely related to the NOE. In particular, in many countries, especially developing ones, a large number of persons are involved in informal sector production, which has a very significant role in employment creation, income generation and poverty reduction. Data on the size and characteristics of the informal sector and its contribution to GDP are thus required for research and policy making. In response to this demand, the Handbook provides advice on the production of stand-alone statistics for the informal sector and of household production undertaken for own final use.

1.11. Other issues that are sometimes considered to be related to the NOE are capital flight, shuttle trade, cross border shopping, tax evasion, and drug trafficking. Some of the concern that official statistics do not properly reflect the magnitude of such activities stems from a misunderstanding of what is included in the GDP. In particular, capital flight and tax evasion are not productive activities and thus are not measured in the GDP. Whilst it is not the aim of the Handbook to deal explicitly with these issues, it does provide some guidance. In particular, it details methods for the production of stand-alone statistics for underground production and describes its relationship to tax evasion, shuttle trade and other items commonly associated with the underground economy. It also discusses the most common types of illegal production.

1.12. It is worth emphasising what the Handbook does *not* attempt to do. It does not lay claim to presenting new material, nor to providing the single best solution. Rather it is a compendium of existing good practices, with guidance on how they might best be used. Furthermore, it does not aim at *reduction* of underground, illegal, informal sector activities or household production for own final use. Rather it aims at ensuring that productive activities are observed to the extent possible, and that those that are non-observed are nevertheless measured in the national accounts. In doing so, the Handbook may provide some ideas regarding the causes and magnitudes of underground and illegal activities, but their reduction is a matter for government administrators, not for statisticians.

1.13. The Handbook gives insight into tax evasion only to the extent that tax evasion is associated with activities within the 1993 SNA production boundary. However, tax evasion also occurs in connection with activities that are non-productive and which are therefore not included in the GDP. As further discussed in Chapters 4 and 9, estimates of missed tax revenues may be useful in assessing priorities for measuring the NOE and even for determining adjustments for missing production. Conversely, GDP estimates that have been adjusted to include some non-observed activities are indicative of the lower limits of the shortfall in tax receipts through tax evasion.

1.3. Handbook Users

1.14. The Handbook is aimed at all producers and users of macro-economic statistics. The primary audience is the staff of statistical offices involved in the collection of macroeconomic statistics and preparation of the national accounts. In addition, the Handbook may prove useful to data users who have reason to be concerned about overall levels of economic production or differences in trends between the economic activities that are directly measured and those that are indirectly estimated as part of the NOE. The Handbook may also prove useful to researchers and journalists who are confronted with a plethora of measures of the underground, hidden, shadow economy, etc., and who would like to know why they are all different and which can be regarded as the most reliable.

1.15. Just as the 1993 SNA 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 well developed, or in development, or in transition from a planned economy.

1.4. Concepts and Terminology

1.16. The Handbook is anchored on the 1993 SNA and may be viewed as a supplement to it that discusses some specific measurement problems and methods. The following paragraphs introduce some of the key concepts, definitions and frequently used terms. They are further elaborated in Chapters 2, 3 and 8. A glossary of terms relevant to the Handbook is provided in Annex 2.

1.17. The 1993 SNA defines an *enterprise* as an institutional unit, *i.e.*, corporation, government unit, non-profit institution or household, in its capacity as a producer of goods and services. This is a very broad definition. It includes, in particular, households producing goods entirely for their own final use. It goes far beyond what most economic survey statisticians would regard as an enterprise, but it is needed in order to cover all the units engaged in productive activities. It is the definition that is used in the Handbook.

1.18. The Handbook also draws on the 1993 SNA for the definition of the terms used in the definition of the NOE, including:

- *underground production*, defined as those activities that are productive and legal but are deliberately concealed from the public authorities to avoid payment of taxes or complying with regulations;
- *illegal production*, defined as those productive activities that generate goods and services forbidden by law or that are unlawful when carried out by unauthorised producers;
- *informal sector production*, defined as those productive activities conducted by unincorporated enterprises in the household sector that are unregistered and/or are less than a specified size in terms of employment, and that have some market production;

- *production of households for own final use*, defined as those productive activities that result in goods or services consumed or capitalised by the households that produced them.

1.19. The 1993 SNA takes its definition of *informal* directly from the International Conference of Labour Statistician (ICLS) 1993 Resolution concerning employment in the informal sector. (ICLS Resolutions are another primary source of international concepts for the Handbook.) The Resolution describes the informal sector in broad terms, and provides the framework within which each country should formulate its own specific operational definition. The Resolution uses the 1993 SNA production boundary as the starting point, defining the informal sector as a subset of the household sector and specifying the operational criteria for delineating those enterprises that belong to it.

1.20. *National statistical system* is the term used in the Handbook to describe the ensemble of statistical organisations and units within a country that jointly collect, process and disseminate official statistics. The leading statistical agency is referred to as the *national statistical office*.

1.21. The term *basic data collection programme* is used to describe the statistical infrastructure and survey procedures that collect and process basic economic data. Raw data obtained by survey statisticians directly from respondents by survey, or from administrative sources, are edited, imputed and aggregated to become the *basic data* that are supplied to the national accounts area, where, after appropriate transformation to national accounting concepts, they are input to the *national accounts compilation process*. Where these basic data are inadequate, the data gaps are filled and inconsistencies resolved using *indirect compilation methods* that model the missing data using other related data – *indicators* – and that enforce accounting identities.

1.5. Measurement Strategy

1.22. The Handbook strategy for NOE measurement draws on and combines a broad range of current ideas and practical experiences, for example as described by the Organisation for Economic co-operation and Development (1997), Goskomstat of Russia (1998), Bloem and Shrestha (2000), Calzaroni (2000), Luttikhuisen and Kazemier (2000), Masakova (2000) and Stapel (2001). It embodies the following basic principles.

1.23. First, a national statistical system should have a NOE measurement programme with clear objectives, roles and responsibilities for the national accountants and for the survey statisticians, including those in regional offices. The major data users should also be informed and involved. Given that exhaustive coverage is an important aspect of quality, the NOE measurement programme should be blended with other quality management and improvement initiatives.

1.24. There should be systematic analysis of NOE problems and potential solutions. This analysis should be based on a comprehensive analytical framework that helps categorise the causes of non-observed activities or the methods appropriate for their measurement. Causes may be classified, for example, as being due to non-registration, non-response or under-reporting.

1.25. Improvement of the basic data collection programme is fundamental. The theme is upstream quality control. NOE measurement should be optimised by ensuring that the basic data include productive activities to the fullest extent possible. The national accounts compilation process should not be expected to deal indefinitely with problems in the basic data, caused, for example, by inappropriate concepts, or failure to make proper adjustments for non-response.

1.26. Finally, full use should be made of all the basic data available rather than relying on model based assumptions. Where model based assumptions are unavoidable, they should be applied at the most detailed level available. *Macro-models* that model the entire economy in terms of variables that may relate in some way to the NOE are too crude to be accurate and the results they produce cannot be integrated with other data to provide better adjustments. They are to be avoided.

1.27. The NOE measurement strategy recommended in this Handbook involves five lines of action.

- Identify an appropriate conceptual and analytical framework on the basis of which the NOE can be assessed.

- Assess the basic data being supplied to the national accounts and the compilation methods, identifying the extent of non-observed and non-measured activities and establishing priorities for dealing with them, both in the immediate future and the longer term.
- Identify potential improvements in the national accounts compilation process that will reduce the incidence of non-measured activities through model based adjustments and using the results of supplementary surveys. Such indirect measurement methods can be introduced relatively quickly and cheaply in comparison with changes to the basic data collection programme that may require substantial additional resources. These methods can provide short-term solutions to data problems that should ultimately be remedied by improvements in data collection. They may also be long-term solutions to chronic undercoverage and under-reporting problems that can never be solved at the data collection stage.
- Identify potential improvements in the infrastructure and content of the basic data collection programme that will reduce the incidence of non-observed activities by bringing the programme into line with international standards and best practices. This is the long-term solution to many data problems. Improvements in the basic programme are the way to deal with non-response and to reduce, if not completely eliminate undercoverage and under-reporting.
- Develop an implementation plan that includes consulting with users, prioritising the potential improvements, ensuring good communication between survey statisticians and national accountants, and dealing with revisions to national accounts estimates that may occur as a consequence of the changes.

1.6. Roadmap to Handbook

By Chapter Content

1.28. Chapter 2 summarises the conceptual framework provided by international standards, in particular the 1993 SNA, on which the remainder of the Handbook is based. It includes descriptions of the production boundary, transactions, units, classifications and labour related concepts.

1.29. Chapter 3 defines the NOE problem areas, providing descriptions of underground production, illegal production, informal sector production, and household production for own final use. It introduces the notion of an analytical framework for assessing the magnitude and nature of non-observed activities, and provides some examples that have been used in practice.

1.30. Chapter 4 outlines the procedures for assessing the basic data used in compiling the national accounts and the compilation procedures. It describes data confrontation and discrepancy analysis and techniques for estimating upper bounds for non-observed and non-measured activities. It reviews the sort of supplementary surveys that may provide additional information.

1.31. Chapter 5 details indirect compilation methods for measuring non-observed activities (other than those associated with illegal production). It describes production approach methods that can be applied across a range of industries, of which the labour input method is a particularly important example. It also describes industry-specific methods, expenditure approach methods, and procedures based on supply and use tables.

1.32. Chapter 6 focuses on improvements to the basic data collection programme that feeds the national accounts. It emphasises the need to evaluate the underlying statistical infrastructure – including legislation, organisational structure, business register, survey frames and survey design, use of administrative sources and metadata management. It describes a wide range of possible enhancements that may serve to reduce the incidence of non-observed activities.

1.33. Chapter 7 provides guidance on planning and implementing measurement of the NOE. It suggests how to tailor the NOE measurement plan to particular circumstances, for example to a developing country or a country in transition. It also gives advice on revision strategies and, in particular, how to present changes in statistical estimates that result from better measurement of the NOE.

1.34. Chapter 8 provides more details regarding the terminology and measurement of underground production, covering various activities frequently associated with the underground economy, such as shuttle trade and cross-border shopping.

1.35. Chapter 9 is devoted to the description and treatment of illegal activities. These are not fully discussed in the context of national accounts compilation methods (Chapter 5) because it is not yet current practice to make explicit adjustments for illegal activities in the national accounts. This is due to the experimental and sensitive nature of the subject and the poor quality of the estimates.

1.36. Chapter 10 deals with the informal sector in detail. It is in two parts. The first part explains the origins and nature of the definition of the informal sector and its policy significance. It also includes the results of recent deliberations by the *Delhi Group*, which was established by the United Nations Statistical Commission to improve measurement of the informal sector. The second part of the chapter describes how statistics for the informal sector may be obtained through use of supplementary questions added to labour force surveys and household income and expenditure surveys, or through special informal sector surveys, including mixed household-enterprise surveys.

1.37. Chapter 11 describes the measurement of productive activities undertaken by households for their own final use, including subsistence farming, own account construction and paid domestic services.

1.38. Chapter 12 outlines the principal macro-model methods. These include monetary methods, a model based on electricity consumption and the *latent variable method*. Estimates based on macro-model methods are often quoted in the media and attract considerable attention because they usually suggest that the GDP is much larger and is growing much faster than is shown by the official figures. The chapter describes the simplistic assumptions on which such methods are based and explains why they are usually misleading and of little practical use in compiling GDP.

1.39. The Annexes contain a list of references, a glossary including the main terms used in the Handbook, a list of the principal national accounts aggregates and their typical data sources, and some additional material on NOE analytical frameworks and assessment tools.

By User

1.40. Different types of users may wish to focus their attention on different chapters. Some redundancy has been introduced in the chapters to allow them to be read separately.

1.41. Survey statisticians may find interesting material in all chapters – some chapters providing guidance on good data collection practices, others describing how the data are used to compile the national accounts.

1.42. National accountants will certainly be familiar with the 1993 SNA material summarised in Chapter 2, so they may wish to focus on Chapters 3-5. They may also want to review Chapter 6 to the extent that they need to know what survey statisticians should be doing.

1.43. Users of macro-economic data for policy purposes might want to focus on the NOE description and analytical framework in Chapter 3. They may also wish to skim through the remaining chapters, including discussion of issues related to the underground economy (Chapter 8) and the reasons why macro-model methods are not recommended (Chapter 12).

1.44. Analysts and researchers interested in knowing the essence of the measurement strategy that is being presented and how it differs from the various macro-model methods should focus on Chapters 2-6 and 12.

1.45. Journalists may find the material most pertinent to media articles in Chapters 3 and 8-12.

1.46. Users interested in tax evasion may find some useful material in Chapters 4 and 8.

1.47. Users with a focus on governance or dealing with capital flight, smuggling, shuttle trade, drug production or distribution may find Chapters 8 and 9 the most informative.

1.48. Users particularly interested in the informal sector or household production for own final use should focus on Chapters 10 and 11.