

Essential SNA: Building the basics



2010 edition

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Foreword

National accounts are the key indicators for describing the national economy and its interactions with the international economy. They are used a great deal by national, regional and international agencies, among other reasons, for designing and assessing policies and for making comparisons of growth and development at an international level.

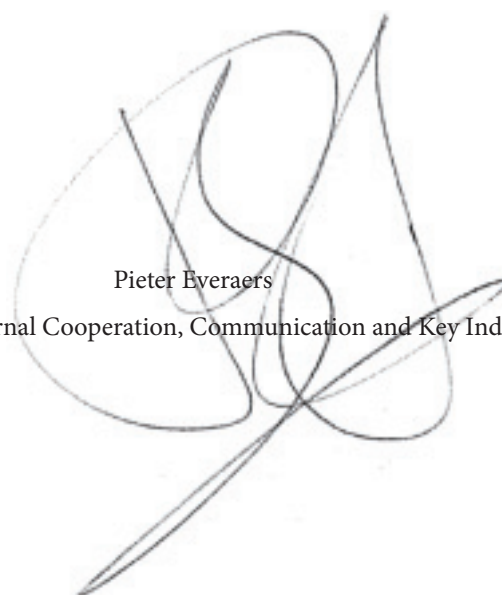
The availability of national accounts and related basic statistics is still less than optimal in many countries and regions hence the need for action to address this issue. Furthermore, there have been recent recommendations calling for international standards in economic statistics, one of these being the adoption of the new version of national accounts, the 2008 SNA.

In the Action Plan for the implementation of the 2008 SNA by the Inter-Secretariat Working Group on National Accounts (ISWGNA), it was proposed that the various stages of the statistical production process preceding integration of data into national accounts, namely the collection and processing of basic source data and the institutional context be brought more into focus than previously had been the case.

The present handbook is the result of the activities undertaken by Eurostat following the strategy proposed by the ISWGNA. It is intended to be a useful tool for developing countries in their analysis of basic data when preparing national accounts statistics for the first time or improving the existing situation. It presents clear and simple guidelines for enabling the implementation of National Accounts, and helping countries prepare for estimating the corresponding indicators.

The handbook 'Essential SNA: building the basics' aims to make a significant contribution to supporting the efforts of those developing countries in their early stages of SNA implementation.

Comments and feedback are most welcome since they are helpful in the process of updating and improving future versions of this handbook.

A large, stylized handwritten signature in blue ink, consisting of several overlapping loops and a long, sweeping tail that extends downwards and to the right.

Pieter Everaers
Director for External Cooperation, Communication and Key Indicators

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Finally, Eurostat accepts the sole responsibility for all remaining errors in the text; please consider this as the first draft of a work in progress.

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Acronyms and abbreviations

Acronyms and abbreviations

1968 SNA	System of National Accounts 1968	NOE	Non-Observed Economy
1993 SNA	System of National Accounts 1993	NPISHs	Non-profit Institutions Serving Households
2008 SNA	System of National Accounts 2008	NSDS	National Strategies for the Development of Statistics
BEC	Classification by Broad Economic Categories	NSO	National Statistical Office
BPM6	Balance of Payments Manual and International Investment Position, sixth edition	NSS	National Statistical System
CIS STAT	Interstate Statistical Committee of the Commonwealth of Independent States	OECD	Organization for Economic Co-operation and Development
COFOG	Classification of the Functions of Government.	PPI	Producer Price Index
COICOP	Classification of Individual Consumption by Purpose	SBR	Statistical Business Register
CPA	Classification of Products by Activity	SBS	Structural Business Survey
CPC	Central Product Classification	SDDS	Special Data Dissemination Standard
CPI	Consumer Price Index	SITC	Standard International Trade Classification
DQAF	Data Quality Assessment Framework (IMF)	SUTs	Supply and Uses Tables
ECE	Economic Commission for Europe	UK	United Kingdom
ERETES	Equilibres ressources emplois, Tableaux entrées-sorties	UN	United Nations
FISIM	Financial Intermediation Services Indirectly Measured	UVI	Unit Value Indices
GDP	Gross Domestic Product	XPI	Export Price Index
GDDS	General Data Dissemination Standard		
GFSM	Government Finance Statistics Manual		
HBS	Household Budget Survey		
HS	Harmonized System		
IAS	International Accounting Standards		
IASC	International Accounting Standards Committee		
ICLS	International Conference of Labour Statisticians		
IFRS	International Financial Reporting Standards		
ILO	International Labour Organization		
IMF	International Monetary Fund		
ISIC, Rev. 4	International Standard Industrial Classification, Revision 4		
ISTAT	Italian National Statistical Institute		
ISWGNA	Intersecretariat Working Group on National Accounts		
LFS	Labor Force Survey		
MPI	Import Price Index		
MRDS	Minimum Requirement Data Set		

Introduction



1. Scope and aims

Building the System of National Accounts (SNA) in the framework proposed by the last revision (the 2008 SNA) is a complex task, especially for developing countries. The main aim of this handbook is to provide statistics producers with clear and simple guidelines for implementing the SNA.

Developing countries have to face two kinds of challenge in implementing the 2008 SNA. The first refers to the political will and the economic capacity to create the general framework. The second is how to adapt the methodological requirements of the 2008 SNA to the country's specific situation and with the available resources (data sources, human resources and financial support).

This raises the question of what is the best strategy to adopt for implementing the 2008 SNA and satisfying user needs (national and international).

The handbook is especially designed to clarify, prioritize and present alternative ways of facing these challenges and preparing countries for estimating national accounts indicators. It focuses on presenting ways of laying the groundwork for compiling national accounts.

The key issues for implementing the 2008 SNA presented in the handbook are:

- Institutional issues, such as the need to create the legal framework for implementing national accounts and the strategy for developing the statistical system, which forms the basis for the implementation of national accounts;
- Technical issues relating to statistical infrastructure, such as the business register and classifications;
- Technical issues relating to statistical and administrative data sources required for compiling national accounts, and especially the use of this data for estimating national accounts indicators;
- Specific issues for the compilation of national accounts, common in developing countries, such as the non-observed economy and the informal sector.

The most reasonable approach to implementing the SNA consists of a gradual compilation of the accounts and tables required for addressing policy issues and deemed the highest priority for a country. For this reason, the main reference framework is provided by the Minimum Requirement Data Set (MRDS), developed by the Intersecretariat Working Group on National Accounts (ISWGNA) and approved by the UN Statistical Commission during its March 2001 meeting. The MRDS includes a set of required, recommended and desirable data on national accounts that should be provided by countries intending to implement the SNA for the first time (see Table III.1)

In order to implement the SNA in line with the MRDS, priority should be given at the first stage to compiling GDP data

according to production and expenditure and by industry for the overall economy and external counterpart sector. This will enable estimates of the major SNA aggregates to be made.

Incorporating the SNA into routine practice requires a transformation of the entire system of producing socio-economic statistics. This will entail changes and improvements in statistical areas, linked to the SNA or integrated with it, such as government finance statistics, banking statistics, balance of payments, statistics based on households surveys, etc. It will also involve introducing new economic classifications closely linked to the 2008 SNA, such as the International Standard Industrial Classification of All Economic Activities (ISIC) Rev.4, the Central Product Classification (CPC) Ver.2 or the Classification of the Functions of Government (COFOG).

2. Contents

To achieve the objectives outlined above, the handbook has been divided into several chapters, each focusing on a key issue.

Chapter II: System of national accounts offers a short introduction to the national accounts system, and in particular the 2008 SNA, stressing the importance for a country of national accounts. This chapter aims to provide arguments for implementing national accounts, providing Chief Statisticians with the tools for justifying the need to allocate human and financial resources to this activity.

The definition and characteristics of the national accounts system are presented, as well as how it may be used in the economy.

One section is devoted to the new SNA: it includes a brief history of SNA developments and the main improvements in the 2008 SNA with respect to previous versions.

Chapter III: Building the SNA presents the guidelines for drafting a national strategy for implementing the SNA and compiling national accounts, these can be adapted to the specific situation in each country.

Three phases of the 2008 SNA implementation process may be identified:

- i. Elaborating or reviewing the strategic framework and implementation plan as part of the national statistical development strategy;
- ii. Adapting the classification framework and business registers, surveys and administrative data sources that make up the infrastructure for the compilation of national accounts ;
- iii. Collecting data sources and applying the 2008 SNA methodological requirements to calculate the main economic aggregates.

This chapter focuses on the first phase of the process; the last two phases are outlined in Chapter V: Statistical infrastructure for national accounts.

The first section of the chapter highlights the main point of the National Strategies for the Development of Statistics (NSDS), as a basic foundation for the SNA implementation strategy. The NSDS is expected to provide countries with a strategy for strengthening their statistical capability across the entire national statistical system (NSS) in response to evolving user needs and priorities.

Section 2 presents the main phases of the SNA implementation strategy, starting with the establishment of an appropriate institutional environment (including organizational, human resources and management approaches) followed by drawing up an inventory of data sources and collection, analysis and translation of indicators into national account concepts.

In detail, the strategy of SNA implementation includes:

- Defining the objectives
- Setting priorities based on the Minimum Requirement Data Set (MRDS)
- Ensuring institutional conditions are in place
- Designing a compilation strategy:
 - Inventory of data sources: general principles, statistical sources, administrative sources;
 - Classification and nomenclature implementation: units, institutional sectors, flows and stocks, activities, function adapted to the country's situation;
 - Use of data sources: collection of data sources, analysis of quality and coverage, translation into national accounts concepts, estimation of indicators, reconciliation of data;
 - Use of IT tools for national accounts – the case of ERETES (Equilibrés ressources emplois, Tableaux entrées-sorties).
- Drawing up the dissemination strategy to meet users' needs.

An introduction to the concepts used in the 2008 SNA is presented in **Chapter IV: Basic concepts**. The chapter outlines who the stakeholders in an economy are and how they are grouped; the kind of actions they undertake and how these are translated into national accounts indicators; the purpose of their actions and how the SNA describes and evaluates these actions to obtain the main aggregates.

The main aggregates of the SNA are presented in the second section of the chapter and introduce users to the main results that national accounts provide.

Chapter V: Statistical infrastructure for national accounts outlines the statistical bases needed for compiling national accounts, set out in 3 sections: the basis (business register and classifications), the statistical sources and the administrative data sources.

The first section deals with objectives, variables, updating methods and uses of the Statistical Business Register (SBR). A short presentation of the following classifications is included: International Standard Industrial Classification of All Economic Activities (ISIC Rev. 4), Classification of the Functions of Government (COFOG), Classification of Individual Consumption by Purpose (COICOP), Central Product Classification (CPC Ver. 2), Standard International Trade Classification (SITC Rev.4) and Harmonized System (HS 2007). For detailed content and explanations, various references are provided (UN website, manuals, etc.).

The second section of the chapter focuses on the main statistical data sources, broken down according to main domains. Administrative data sources are grouped into three main categories: data from the accounting system of non-financial units and financial units, data concerning government revenues and expenditures as well as international trade data. Examples of how administrative indicators are translated into national accounts concepts are provided. Recommendations concerning the minimum statistical data sources necessary for implementing the SNA are also given.

Finally, **Chapter VI: Informal sector** provides general guidelines for identifying and assessing the informal sector, a phenomenon found in many developing countries. The first section presents a general overview of the non-observed economy and the place of the informal sector within it. Criteria for identifying the informal sector, measurement methods and the main sources used for estimating it are to be found in the second section.

Common to all chapters is a list of references to other manuals and documents to provide guidance for users interested in further developing the topics covered by the handbook. The references can be found at the end of each chapter.

Boxes 'To find out more...' complete the above-mentioned list of references, providing supplementary information for users of the handbook.

System of National Accounts



The chapter in brief

The essential phenomena comprising a country's economic behaviour (production, consumption, accumulation and associated concepts of income and wealth) are identified and measured in the general framework of the System of National Accounts (SNA). Questions such as 'what is the SNA?' and 'what is it for?' are explained in this chapter advocating basic arguments for encouraging the implementation and maintenance of viable statistics.

There is a section in which the new 2008 System of National Accounts (2008 SNA) is described, including a brief history of recent SNA developments and the main recommendations contained in this revised system.

1. SNA in the economy

1.1 What is SNA?

National accounts are an essential tool for evaluating, analysing and forecasting economic phenomena. Their existence is justified by economic necessities, because they measure what needs to be developed and highlight the size and structure of the economy and all its components. Accordingly, by using national accounts concepts and indicators, economic phenomena are better described and understood. Economic forecasts based on the national accounts framework become realistic and provide tools for decision-makers.

Two different levels of analysis may be identified in an economy:

- Microeconomic analysis, based on the interpretation of the individual behaviour and inter-individual relationships of economic stakeholders;
- Macroeconomic analysis, in which a collective analysis of relationships associated with homogeneous groups of individuals is provided. The referent of macroeconomic analysis is often the nation. This enables coherent analysis of an integrated market, a monetary unit, or social behaviours, to name but a few.

The models used in economic analysis are based on four main groups of relationships:

- Accounting equations (linking flows and economic goods);
- Technical equations (for physical units);
- Institutional equations (for certain legal or contractual constraints);
- Behavioural equations (that highlight the proposed rules).

The economy needs a special framework in which to put these equations into practice. This framework has been developed gradually by economists and it represents what are

called 'national accounts'. The system of national accounts is a measurement tool offering a suitable means of quantification adapted to macroeconomic needs. It provides the conceptual framework required for developing macroeconomic equations and measuring all aspects of an economy.

Definition

The System of National Accounts (SNA) is the internationally agreed standard set of recommendations on how to compile measures of economic activity in accordance with established accounting conventions based on economic principles. The recommendations are expressed in terms of a set of concepts, definitions, classifications and accounting rules that comprise the internationally agreed standard for measuring such items as gross domestic product (GDP), the most frequently quoted indicator of economic performance. The accounting framework of the SNA allows economic data to be compiled and presented in a format that is designed for purposes of economic analysis, decision taking and policymaking.

Source: The 2008 SNA, European Commission, IMF, OECD, UN, World Bank, 2009, Chapter I: Introduction.

National accounts provide a unique overview of the economy, of the main groups of economic stakeholders and various economic flows, stocks and economic processes. The concepts contained in them give specific meaning to the economy and provide factual data for users.

The main characteristics of the national accounts system are:

- i. **Universality**
National accounts constitute a universal system which takes into consideration the specific circumstances existing in different economies. By way of example, the 2008 SNA includes a new treatment of goods for processing and remittances from persons working abroad, especially relevant for developing countries that are moving into the global economy.
- ii. **Transparency**
National accounts are transparent. The accounting system has a uniform base: the written handbooks and manuals. Furthermore, qualitative descriptions of calculation rules and basic data ensure that the whole process of compilation is intelligible.
- iii. **Harmonization**
National accounts are harmonized statistics; they employ concepts and classifications that are also used for other social and economic statistics (industry, trade, employment statistics, etc.). Concepts and methodology are harmonized with those of other major international guidelines on economic statistics, in particular the IMF Balance of Payments Manual (BPM) or the IMF Government Finance Statistics (GFS). This harmonization enables results to be linked and compared.

iv. Flexibility

The SNA incorporates satellite accounts, offering clear evidence of its flexibility: by using satellite accounts the relevance of national accounts is increased without affecting the comparability of the central framework. Satellite accounts provide a framework, linked to the central accounts, so that attention can be focussed on a certain field or aspect of economic and social life. Common examples are satellite accounts for the environment, tourism or health.

To find out more...

The 2008 SNA, European Commission, IMF, OECD, UN, World Bank, 2009, Chapter XXIX: Satellite accounts and other extensions.

1.2 SNA and the economy

National accounts represent a broad and comprehensive statistical system aimed at describing a national economy and how it works. The system uses data on economic activities and relevant classifications to provide a systematic picture of the structure and evolution of a national economy.

A national economy circuit is illustrated in Figure. II.1.

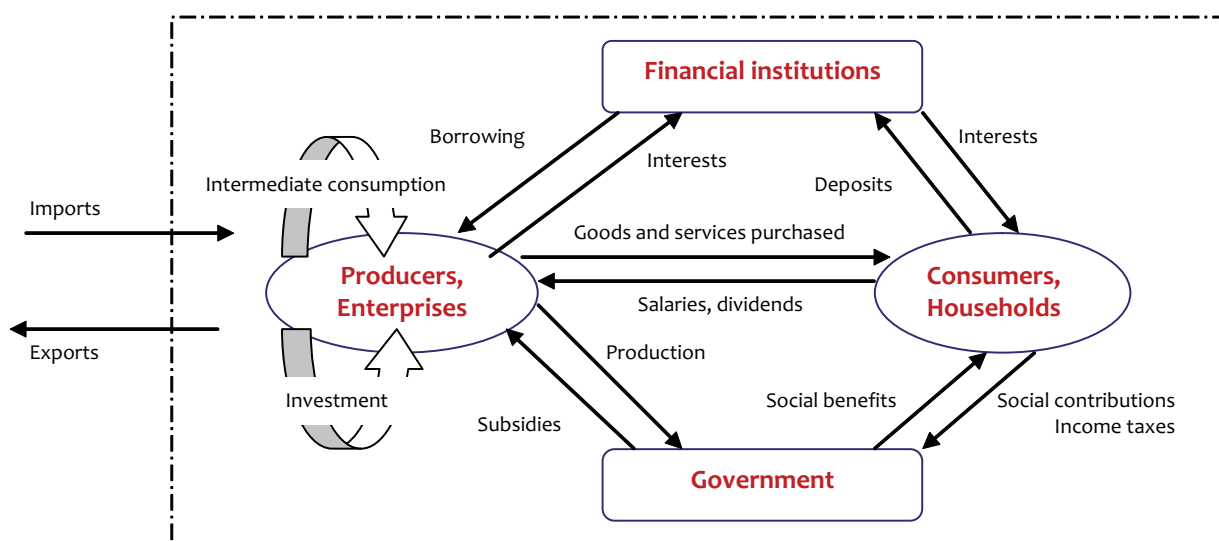
A national economy encompasses a closed space (a country), the outside is the rest of the world. This circuit can be analysed on two levels:

- The first describes only those flows included in the scheme and corresponds to what are called the consolidated national accounts;
- The second more detailed level (such as the Input Output Table or Social Accounting Matrix), proposes a breakdown of internal flows highlighting the different economic agents involved in the economy. National accounts evaluate the flow of the economy as represented by the income created by the nation. Income is generated by productive activity.

In Figure II.1, the economic circuit presents the distribution of income within a national economy and between a national economy and the rest of the world. The economic circuit describes economic flows (transactions of various types) carried out by the resident economic stakeholders as producers or consumers, based on symmetrical transactions that entail the existence of a financial counterpart (e.g. a household consumes goods and services produced by enterprises that pay salaries or dividends to households; households pay taxes to the government and receive services such as education, health, justice and other social benefits). Relations with the rest of the world deal with aspects such as imports and exports of goods and services, the development of the economy based on foreign aid or foreign direct investment, remittances sent by members of a family working abroad, etc.

The concept of residence is presented in Chapter IV: Basic concepts.

Figure II.1 National economy circuit



Sources: European Statistical Training Programme, Course: Advanced national accounts, 2007

Transactions and flows that take place in an economic circuit are diverse and, for this reason, the SNA classifies them into four groups:

- *Transactions involving goods and services* (products) describes the supply source (domestic output or imports) and use (intermediate consumption, final consumption, capital formation or exports) of goods and services;
- *Distributive transactions* consist of transactions by which the value added generated by production is distributed to labour, capital and government and transactions involving the redistribution of income and wealth (taxes on income and wealth and other transfers);
- *Transactions involving financial instruments* (or financial transactions) refer to the net acquisition of financial assets or the net incurrence of liabilities for each type of financial instrument;
- *Other accumulation entries* cover transactions and other economic flows not previously taken into account that alter the quantity or value of assets and liabilities.

To find out more...

The 2008 SNA, European Commission, IMF, OECD, UN, World Bank, 2009;

Guide méthodologique pour l'élaboration des comptes nationaux dans les états membre d'Afristat, Afristat, Serie Méthodes no.4, 2001 ;

National Accounts: A practical introduction, Studies in Methods, Series F, No.85, UN 2003;

Understanding National Accounts, Lequiller F., Blades D., OECD 2006.

The concept of national accounts makes a substantial contribution to the quality, stability, neutrality and international comparability of the system and describes transactions in national economies and/or the links between different national economies. National accounts concepts are based on the different systems in an economy, such as: business accounting, production, employment, productivity, monetary policy, inflation, budgetary policy, government finance, personal income, wealth and consumption, balance of payments, etc.

Each system describes a different aspect of a national economy, and explains some of the specific national accounting conventions. National accounts combine these systems into a single accounting framework. As a result, the system of national accounts offers an overview of each of these specific aspects and can also show all kinds of interactions between them and with the national economy as a whole.

1.3. Need for the SNA

The System of National Accounts was developed to provide a tool to be used for macroeconomic analysis and for checking

the assumptions that drive economic policy measures. This role has been confirmed over time; but the SNA has succeeded in other areas too.

The key indicators of national accounts such as Gross Domestic Product (GDP), economic growth rate, national income or government deficit play a central role in managing and analysing economies all over the world. Many economic decisions which have a direct impact on the level of households income and expenditure are directly influenced by the data provided in the national accounts.

Furthermore, development aid policies include targets for aid flows as a percentage of GDP, and the effectiveness of aid programmes is measured by their impact on GDP growth. In the same way, international programmes aimed at poverty reduction use per capita GDP to identify target regions and to evaluate the results of actions taken.

National accounts data is used by governments, economic policymakers, economic modellers and analysts, financial markets, etc. The stakeholders range from the general public to business, from domestic institutions and government to international organizations. This means that the level of detail of the estimated indicators should be adapted to user needs and should be set out in the framework of the national accounts dissemination strategy.

Chapter III: Building the SNA sets out the national accounts dissemination strategy.

To find out more...

The 2008 SNA European Commission, IMF, OECD, UN, World Bank, 2009, Chapter I Introduction; part C 'Uses of the SNA';

To read more about the promotion of economic and official statistics in general as input for evidence-based decision-making, please refer to the documents of Paris21

<http://www.paris21.org/advocacy>

The particular importance of national accounts is determined by their diverse uses:

1. The SNA is an excellent tool for obtaining information **on the structure and evolution of a country's economy**. It offers users coherent, comprehensive and permanent access to the main macroeconomic indicators, useful for monitoring an economy's overall performance, strengths and weaknesses.
2. The SNA is the framework used for **economic forecasting**. It provides the accounting framework for formulating the equations used in macroeconomic models. From the data series provided, the national accounts indicators can be used to assess the significant parameters which show how the economy behaves. National accounts can also be used for predictions, such as for testing specific

economic policy measures (fiscal policy, currency parity, allocation of subsidies, investments, etc.).

3. The SNA is the **central statistical framework** that must be used as the **coordinating framework** for all other statistics so as to obtain consistent definitions, and hence data. This is especially true of countries in the early phases of organizing their statistical production.
4. The national accounts indicators help to establish a country's

economic policy: they are used by policy makers to analyse the current situation, identify the major problems and find a common solution for development.

5. **International comparisons** should be based on national accounts indicators. The performance of one economy as compared to that of another is evaluated by economists, journalists, or other analysts in accordance with the common concepts, definitions and classifications provided by the SNA.

Box II.1: Examples of national accounts uses for economic policy

NATIONAL ACCOUNTS INDICATORS	POLICY USES
Agricultural accounts with data on farmer income	Agricultural policy
Growth of particular types of manufacturing or service industries using the input-output tables or data on value added by type of activity	Industrial policies
Government deficit and debt as a percentage of GDP	Monetary policy and public finance
Economic growth, expenditure on Research and Development as percentage of GDP	Productivity and growth policy
Expenditure on defence as a percentage of GDP	Defence policy
Social protection statistics closely linked to national accounts concepts	Social policy
Regional gross value added (GVA) per capita; regional households consumption per capita	Regional policy for granting regional funds
GDP per capita	Used to identify countries that need development funds and to establish measurements for poverty reduction
Satellite accounts: health, tourism, environments	Economic policy in the specific domain

Source: Policy uses of National Accounts: an OECD perspective, paper presented to the joint ECE/Eurostat/OECD, Meeting on national accounts, 2002

2. Towards the 2008 SNA

An accounting framework should reflect the actual economic reality and users' data needs. Given that the economic situation around the world is constantly changing and developing, there is a clear

need for a more comprehensive model of national accounting.

Over the years, the SNA has been constantly updated by international organizations making recommendations and concepts suitable for new aspects of production, consumption and accumulation – characteristics of the changing economy.

Box II.2: Evolution of the SNA's purview

1953 SNA - Simple set of tables and accounts in current prices

1968 SNA - Extended accounting system, including input-output tables, general principles on prices and volumes and financial accounts

1993 SNA - Inclusion of balance sheets, employment and purchasing power parities, more detailed accounting structure (more accounts, more sub-sectors and detailed supply and use tables); separate chapters on satellite accounts and flexible adjustments for national circumstances; detailed discussion of general principles on prices and volumes (e.g. chaining and index formulae)

2008 SNA - More detailed presentation of several topics, e.g. government accounts, the informal sector and capital services (important for productivity measurement).

Source: Uses of national accounts; History, international standardization, and applications in the Netherlands, Bos Fritz, Eagle Economic & Statistics, Working Paper, 2008-1.

The new economic phenomena that the world has witnessed over the last decade, such as the increasing role of information and communication technologies in production processes, the growing role of intangible assets and service activities, the expansion of financial services, the globalization of national economic systems and the reforms in social security systems require changes to be made to the method of compiling economic statistics.

Under these conditions, the need to update the System of National Accounts 1993 (1993 SNA) became evident in order to adapt it to the new economic environment and the advances in methodological research and user needs.

The updating process has been organized and coordinated by international organizations and supported by experts from all over the world.

The fruits of this process, the 2008 SNA, contains changes in economic structures and improvements in methodologies for measuring economic activities. In order to do so, the fourth generation of official guidelines on national accounting required other sets of international recommendations and standards to be updated:

- The International Monetary Fund's Balance of Payments Manual and International Investment Position, sixth edition (BPM6);
- The International Standard Industrial Classification of All Economic Activities (ISIC Rev.4) and the Central Product Classification (CPC Ver.2);
- The Government Finance Statistics Manual (GFSM2001): note has been taken of any discrepancies between the Manual and the 2008 SNA which will serve as input for a future revision of the Manual. In addition, the Monetary and Finance Statistics Compilation Guide, published in 2007, was improved on the basis of the 2008 SNA.

The 2008 SNA introduces changes and new content to nearly

all sections, especially those dealing with non-financial assets, financial services and financial instruments, the rest of the world (balance of payments), government and the public sector. The majority of the recommendations relate to the unit and transaction characteristics of an increasingly globalized economy, innovation in financial instruments and a stronger interest in the sources of private and the public sector wealth and debt. Some recommendations affect major SNA aggregates, such as Gross Domestic Product (GDP) and savings, as would be expected from an update intended to capture the evolving aspects of production, consumption and accumulation. Other recommendations involve instead a range of other elements, including the drafting and clarification of definitions and classifications.

With respect to the previous version (SNA 1993), the major changes affect the following areas: pension schemes, cost of capital services, research and development, military expenditure, goods for processing, etc. These changes concern:

- Statistical units and revisions of institutional sectoring;
- Scope of transactions, including the production boundary;
- Concepts of assets, capital formation and consumption of fixed capital;
- Treatment and definition of financial instruments and assets;
- Scope of government and public sector transactions;
- Harmonization with the concepts and classifications in the SNA and the BPM, sixth edition.

To find out more...

The 2008 SNA European Commission, IMF, OECD, UN, World Bank, 2009, Annex 3: The changes from the 1993 System of National Accounts

<http://unstats.un.org/unsd/nationalaccount/SNA2008.pdf>



3. Recommended reading

- *The 2008 SNA*, European Commission, IMF, OECD, UN, World Bank, 2009; Chapter I: Introduction; annex 3: Changes from the 1993 System of National Accounts;
- *National Accounts: A practical introduction*, Studies in Methods, Series F, No.85, UN 2003; Chapter VIII: SNA framework for the total economy;
- *A system approach to national accounts compilation*, Studies in Methods, Series F, No.77, UN 1999; Introduction;
- *System of National Accounts 1993*, Training manual, SADC, 1999; Chapter I: National accounts and the 1993 SNA;
- *Uses of Macro Accounts in Policy Analysis*, Studies in Methods, Series F, No.81, UN 2002; Chapter II: The role of macroeconomic and social accounting in policy analysis; Chapter III: Uses of National Accounts in economic analysis;
- *Uses of national accounts; History, international standardization and applications in the Netherlands*, Fritz B., MPRA, Eagle Economic & Statistics, Working paper 2008-1; Chapter II: The early estimates (1660-1930); Chapter III: Revolutionary decades (1930-1950); Chapter IV: The era of the international guidelines (1950-..);
- *Policy uses of National Accounts: an OECD perspective*, paper presented to the joint ECE/Eurostat/OECD Meeting on national accounts, 2002;
- *Understanding National Accounts*, Lequiller F., Blades D., OECD 2006;
- *Guide méthodologique pour l'élaboration des comptes nationaux dans les états membre d'Afristat*, Afristat, Serie Méthodes No.4, 2001.

Building the SNA





The chapter in brief

The SNA has an important function insofar as it is the framework for statistical coordination. In this respect, implementation and development of the SNA represent a major strategic decision that impacts on the entire statistical system. The National Strategies for the Development of Statistics (NSDS) and the main phases of their elaboration are presented in the first section of the chapter. The second section presents the national accounts implementation strategy and the main actions undertaken to achieve it.

1. National Strategies for the Development of Statistics (NSDS)

Statistics are important since they are used to support policy-making aimed at economic growth, the allocation of resources, monitoring national progress and making government activities more transparent.

In many developing countries, the statistical system is fragile and under increasing pressure, mainly due to growing requests from national and international users and the limited technical and human resources available, often devaluing the reliability and integrity of the data provided. Furthermore, as part of government administration, the national statistical office has to work on tight budgets while still ensuring efficiency and productivity.

A crucial condition for ensuring that statistical activities are managed efficiently under these circumstances is to have a clear picture of further development and integrate this into **Strategic planning**.

A **number of initiatives and systems** that promote best statistical practices and serve as a framework for strategic planning have been developed over the past few years by international organizations. They are meant to help countries to build a realistic statistical strategy. Among these, it is important to highlight:

- *Fundamental Principles of Official Statistics*, adopted by the United Nations Statistical Commission, setting out guidelines on the fundamental values and principles to be followed for producing useful, high-quality statistics deemed reliable by data users;
- Drafting and promoting by the International Monetary Fund of the *Data Quality Assessment Framework (DQAF)*, which provides a more detailed structure for assessing the quality of statistics, from the institutional framework to the dissemination of data;
- *The PARIS21 Statistical Capacity Building Indicators (SCBI)*, based on the DQAF, help countries to identify strengths and weaknesses in their national statistical systems and facilitate communication and coordination among development partners by providing common

yardsticks for countries' statistical capacity needs (see Box III.3);

- Other international, regional, and sectoral frameworks contribute to the building capacity and output of the National Statistical System, including the Multi-annual Integrated Statistical Programme (MISP) developed by the statistical office of the European Union, Eurostat, in cooperation with Eastern European countries and members of the Commonwealth of Independent States.

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Box III.1: What is Paris 21?

The Partnership in Statistics for Development in the 21st Century (PARIS21) was founded in November 1999 by the United Nations, the European Commission, the OECD, the IMF and the World Bank, in response to the UN Economic and Social Council resolution on the goals of the UN Conference on Development. PARIS21's goal is to develop a culture of evidence-based policy making and implementation which serves to improve governance and government effectiveness in reducing poverty and achieving the Millennium Development Goals. PARIS21 pursues this goal by encouraging and assisting low-income, least developed countries to design, implement, and monitor a **National Strategy for the Development of Statistics (NSDS)**. An NSDS is expected to provide a country with a strategy for strengthening statistical capacity across the entire national statistical system (NSS).

Source: Paris 21, <http://www.paris21.org>

The **National Strategies for the Development of Statistics (NSDS)** approach has been adopted as a new benchmark for planning the strengthening of statistical capacity in response to evolving user needs and priorities. An NSDS is expected to provide a country with a strategy for strengthening its statistical capacity across the entire national statistical system (including national accounts). The NSDS *provides a vision for where the NSS should be in five years and sets milestones for getting there*, offering a comprehensive and unified framework for user needs and statistical capacity assessment and for priorities decision.

Except for the few countries that are not in the midst of an NSDS process (most of them being countries in special situations, such as fragile states or small island economies), the main concern countries have for the immediate future is how to implement an NSDS, through a continuous, flexible and well-managed strategic planning process that will both build statistical capacity and generate the data needed to support

their progress.

Before putting in place an NSDS, an analysis of the strengths and weaknesses of the national statistical system has to be carried out. The analysis is focussed on:

- Institutional framework and decision-making processes regarding official statistics (including producer coordination instruments and confidentiality protection);
- Statistical infrastructure (dissemination, networks with users and respondents, statistical registers, analytical capacity, etc.);
- Capacity to carry out household and business surveys such as regular data collection;
- Access to administrative data;
- Capacity to integrate different data sources (e.g. for national accounts or the Millennium Development Goals indicators);
- Staff and their skill level;
- Capacity to develop IT tools for statistics;
- Capacity to participate in international activities and to integrate activities funded by international donors into national programmes;
- User confidence in the integrity of the national statistical office (NSO) (and in other producers), and in the quality of the results produced.

Box III.2: Summary table of NSDS status for the International Development Association (IDA) countries (situation at May 2010)

	Countries currently implementing a strategy		Countries currently designing a strategy or awaiting adoption		Countries with strategy expired or without strategy and currently planning an NSDS		Countries without a strategy nor planning one		TOTAL
	No.	%	No.	%	No.	%	No.	%	
AFRICA	19	47.5%	18	45.0%	2	5.0%	1	2.5%	40
ASIA and PACIFIC	13	48.1%	7	25.9%	7	25.9%	0	0%	27
LATIN AMERICA & CARIBBEAN	2	22.2%	3	33.3%	0	0%	4	44.4%	9
EUROPE	2	66.7%	1	33.3%	0	0%	0	0%	3
TOTAL	36	45.6%	29	36.7%	9	11.4%	5	6.3%	79

Source: National Strategies for Development of Statistics, Progress Report, May 2010, <http://www.oecd.org/dataoecd/23/19/41515158.pdf>

The main phases for the drafting of the NSDS are:

Phase I: Launching the process (NSDS Design Road Map)

This first phase is crucial for the drafting of the NSDS. In some countries, the decision to implement the NSDS has to be taken formally by the government, for example, through a decision of the cabinet or the minister with responsibility for statistics. Once the decision has been taken, the agencies leading the preparation of the NSDS will have to draw up a programme, or road map, that will set out in detail what needs to be done, by whom, when and how it will be financed.

Phase II: Assessment of the Current Status of the National Statistical System

Once the legal framework has been set, several domains of the NSS have to be assessed. The main areas to be analysed are: user needs, the legal and institutional framework, cooperation, coordination arrangements, existing gaps (methodological or in data quality) in statistical data compilation and finally the statistical capacity to implement new activities.

Phase III: Developing the vision and identifying strategic options
Based on the statistical assessment, the desired results are agreed and priorities set out.

Phase IV: Preparing the implementation plan

This phase defines the resources to be allocated for the implementation and the main actions that will be undertaken by the statistical office.

Phase V: Implementation, monitoring and evaluation

The most important consideration is that the NSDS be seen as a continuously evolving process. To be effective, the statistical system must remain flexible and respond to new demands for data and changing environments. Mechanisms for monitoring and evaluating progress, reviewing the strategy and making modifications (if needed) must be developed to ensure the success of the NSDS over time.



Box III.3: Tools offered by PARIS21 to prepare an NSDS

The main tools put in place by PARIS21 to help countries to implement an NSDS are:

- The **mobilization and leveraging** of resources (both national and international) for implementing NSDSs;
- The establishment of **country-level statistical sub-groups** to co-ordinate statistical system support;
- **Partnership** initiatives (e.g.: Partner Report on Support to Statistics - PRESS) to coordinate donor support to statistics;
- The **co-ordination of all stakeholders** within the National Statistical System (statistical units in sector line ministries, central bank, central statistical office, etc.);
- The production of **statistical advocacy materials** promoting the increased use of statistics in decision-making and the need for a well-financed NSDS integrated into wider development policy frameworks;
- **Peer reviews** focused on strategic planning and National Statistical System governance;
- Production of **guidance and documentation** on strategic statistical planning;
- Provision of **technical assistance** to address issues such as statistical legislation, national statistics councils, training, human resources, etc.;
- Support for special situations in **fragile/crisis** states and **small island developing states**.

Source: Paris 21, <http://www.paris21.org>

- It ensures consistency of definitions and classifications used in different fields of statistics;
- The methodological demands of national accounts require statistics to be developed (for example, in response to the need for estimating the growth rate of the economy based on GDP at constant prices, a price system is implemented and developed in the statistical system);
- It provides an accounting framework and ensures the numerical consistency of data from different sources (statistical and administrative); thus errors in the statistical indicator calculations can be detected.
- Requests to harmonize the SNA will determine the nature of the revisions and improvements made to all related statistical systems, such as financial statistics or balance of payments statistics.

To find out more...

Guide to statistics in EC development co-operation, Eurostat, 2009.

For more information concerning the National Strategies for the Development of Statistics see <http://www.paris21.org>

Within the NSDS, the implementation or the development of national accounts represents the core objective. As part of the general strategy, the SNA strategy is based on existing conditions; however, it has a decisive impact on the development of the entire statistical system.

Its main role within the SNA is to serve as the coordinating framework for statistics because:

2. The 2008 SNA implementation strategy

The 2008 System of National Accounts serves as the general conceptual framework for the compilation of national accounts. The ways of implementing the system vary greatly and depend on the general strategy adopted for the statistical system.

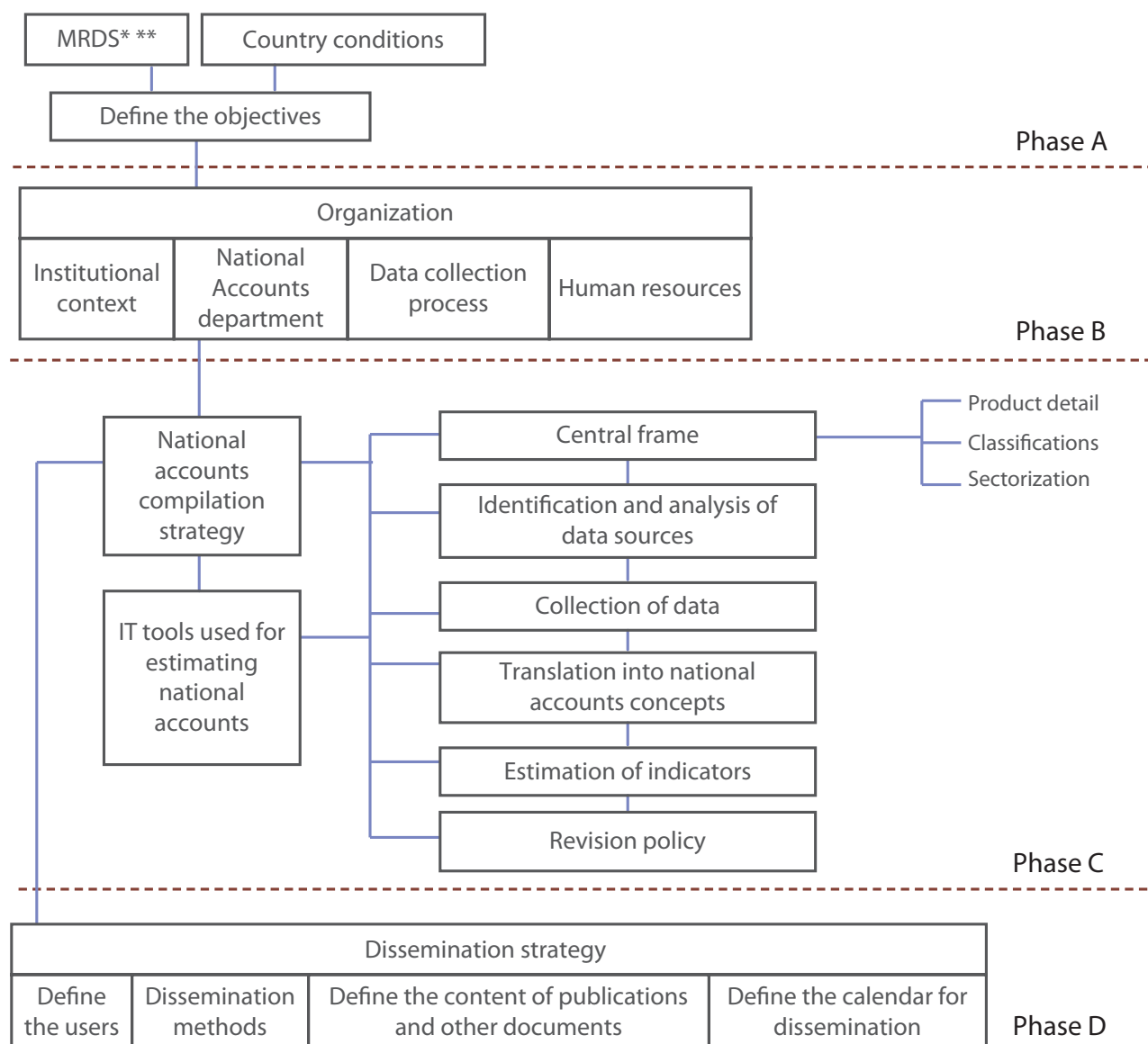
A strategy for implementing the SNA comprises the following phases:

lowing phases:

- Phase A: Aims and objectives
- Phase B: Organization
- Phase C: Compilation
- Phase D: Dissemination

The phases are presented in Figure III.1

Figure III.1 The SNA implementation strategy



*MRDS= Minimum Requirement Data Set. See Table III.1.

2.1. Phase A: Aims and objectives

The first stage of the strategy entails the definition of the aims and objectives for implementing the 2008 SNA. The general aim is the implementation of SNA while the objectives refer to the specific results to be achieved during a defined period

(3-5 years).

The decision on whether to implement the SNA is based on:

- Availability of data sources supporting its implementation. The first estimates of national accounts indicators will refer to a period in the past for which data has to be



taken as it is, because the sources cannot be improved or new ones introduced. Only after 2-3 years, when the needs for national accounts have been clarified, based on the experience obtained, can improvements to data sources be made. Data sources and users' needs will also determine the breakdown of national accounts indicators by industry, institutional sectors, or by geographical region.

- Institutional capacity of the unit in charge of implementing the SNA;
- Needs of national and international users for national accounts indicators.

For many countries, full implementation of the SNA is not feasible due to the unavailability of some (or many) of the elements just described. Furthermore, implementation of the SNA involves the data collection and processing, which may not coincide with a country's policy priorities at a given moment. For all of these reasons, countries implementing the SNA for the first time will have to decide what targets they want to achieve; to facilitate this task, they can refer to the six 'milestones' adopted by the UN Statistical Commission (see Annex I).

The milestones represent the six phases for full implementation of the SNA. A country has reached a particular milestone when it is able to produce a combination of key tables, defined for each milestone. The specific results of SNA implementation reflect the country's ability to produce national accounts data. The first data set contains the annual accounts deemed to be the **'The Minimum Requirement Data Set (MRDS)'** that a country must have before it can claim it has implemented the 1993 SNA. The second data set refers to the annual accounts **'recommended'** for the compilation of national accounts. The third and last data set (Desirable data sets - DDS) refers to the data items that **would be taken into account in assessing the degree of SNA implementation.**

Table III.1 Minimum requirement data sets

Minimum Requirement Data Sets (MRDS)	
Table Number in NAQ	Annual Accounts
T-101	GDP expenditure at current prices
T-102	GDP expenditure at constant prices
T-201	Value added and GDP by industry at current prices
T-202	Value added and GDP by industry at constant prices
T-203	Value-added components by industry at current prices and employment by industry
T-401	Accounts for the total economy
T-402	Accounts of the Rest of the world (up to net lending)
Recommended Data Sets (RDS)	
Classification of expenditure by purpose, Annual Accounts	
Institutional Sector, Annual Accounts	
Integrated Accounts and Tables, Annual Accounts	
Supply and use table, Annual Accounts	
Value Added, GDP and Employment, Quarterly Accounts	
Institutional Sector, Quarterly Accounts	
Integrated Accounts and Tables, Quarterly Accounts	
Desirable Data Sets (DDS)	
Tourism accounts, Environmental accounts, SAM and other socio-economic accounts	
Purpose classification of expenditure at constant prices	
Financial and capital stock accounts	
Supply and use table, Quarterly Accounts	

Source: Report of the Task Force on National Accounts, UN Economic and Social Council, March 2001 (E/CN.3/2001/7).

Implementation of the 2008 SNA has different objectives depending on the milestone that a country wants to achieve.

Possible objectives for a country that is starting to compile national accounts could be:

- a. Estimating Gross Domestic Product (GDP) by expenditure and production approaches, by industry;

The main results are:

- The value in current and constant prices of the Gross Domestic Product (GDP) and its elements, as estimated by production and expenditure;
- Production, intermediate consumption and Gross Value Added (GVA) by industry.

This objective corresponds to milestone 1 and allows the country to meet part of the MRDS (Tables 101, 102, 201, 202) (see Table III.1)

The main national accounts aggregates, including GVA and GDP are outlined in Chapter IV: *Basic concepts*, section 2: *Main aggregates*.

- b. Estimating the rest of the world accounts which means fulfilling Table T402;
- c. Estimating Gross National Income (GNI), and other primary indicators such as: compensation of employees, mixed income, taxes on production;
- d. Employment by industry;

These objectives (b, c and d) correspond to milestone 2 and enable the country to achieve the bulk of the minimum requirement data set.

Further development of national accounts involves new objectives, such as:

- e. Estimating Supply and Uses Tables (SUTs) and production account and generation of income account by institutional sector;
- f. Estimating the full sequence of accounts for institutional sectors; estimating accounts for the rest of the world;
- g. Estimating the financial accounts for institutional sectors;
- h. Estimating balance sheets.

The objectives presented are in order of increasing complexity: the first requires the least amount of data, incorporating a small number of identities (total GDP by production is equal to GDP by expenditure; GDP by production and expenditure is equal to GDP by income) and revealing a limited number of statistical discrepancies (if any) (by way of example, the difference between the value of GDP by production and by expenditure). The more complex the objectives become, the more data is required to compile them. But, complex objectives give a realistic description of the socio-economic structure and development of a country, and they are more suitable for policy and analytical purposes. In particular, they differ in their ability to integrate production analyses with income, financial, fiscal and monetary as well as with social and environmental analyses and policies based thereon.

The decision about which objectives a country wants to achieve should be based on an in-depth analysis of the local situation. It is helpful to present some important factors to be taken into consideration when deciding which objectives to achieve:

- The country's statistical capacity for providing the data sources required for compiling national accounts;
- The human resources (number and level of knowledge) capable of implementing and developing national accounts;
- The possibility of using financial data (i.e. business accounts) from the formal sector and the ability to translate this information into national accounts indicators by activity or institutional sector;

- The structure of the economy, especially the extent of the informal sector and the ability to cover it with existing data sources.

Generally, implementation of SNA starts with the compilation of GDP by production and expenditure, because some of the data sources needed exist in almost all countries, and the result, the GDP, represents the most important national accounts indicator.

2.2 Phase B: Organization

Building national accounts for the first time is a demanding task that requires important and constant resources.

The national accounts implementation strategy should not only take into consideration institutional conditions, but also the capacity to provide the financial and human resources as explained below.

2.2.1. Institutional context

The strategy for implementing national accounts is mainly based on a country's political will. Consequently a guarantee of long-term support from the government is essential.

After the legal groundwork has been laid, it is necessary to establish which institution will be in charge of implementing and developing national accounts. There are countries where national accounts are compiled by the national statistical office, others by the Central Bank or by other administrative agencies.

The situation in each country and its institutional history are decisive for entrusting an institution with the responsibility of implementing national accounts. In a large percentage of countries, **the national accounts are the responsibility of the national statistical office**. The main explanation for this is its proximity to the statistical data sources and the coordinating role generally assigned to the statistical office, by statistical legislation.

2.2.2. Organizational aspects

Regardless of which institution is in charge of compiling national accounts, the crucial issue is the organization of the activity. It is obvious that such a task requires that the entire national accounts process be properly organized, starting with data gathering, data analysis, translation to national accounts concepts and compilation of the main indicators. 'Efficient' organization for ensuring the right conditions for SNA implementation refers to:

- The organization of the national accounts department;
- Mobilizing and developing human resources;
- Organizing and establishing cooperation within the statistical office and with other administrative institutions for data collection or exchange;



- Deciding the main tasks to be performed for the compilation of national accounts that the statistical office and other administrative institutions are involved (for example, the preparation of government accounts by the Ministry of Finance or the financial accounts drawn up by the Central Bank).

2.2.2.1 Organizing the national accounts department

In a small statistical office, it may be advisable to place the national accounts at the heart of its economic statistics. The basic data needed for national accounting are wide ranging, such as the output of different activities, labour market statistics, household statistics, company business accounts, etc. Implementation of national accounts involves:

- The existence of basic conditions: the Statistical Business Register, and classifications;
- The elaborating of important statistics, such as economic statistics, household statistics, prices, etc.;
- The establishment of proper coordination and cooperation between different departments in the statistical office. Cooperation should be directed not only at ensuring the data sources needed for compiling national accounts, but also for laying the groundwork for developing statistics in the office. Thus, the national accounts department may be quite small, relying on the participation of specialists from other departments where necessary;
- The establishment of cooperation with other administrative institutions in order to access the data required for compiling national accounts.

Countries in phase zero of implementing the SNA should pay special attention to making sure the department is organized so as to make efficient use of human resources. The organization will take into consideration the main objectives, primarily focusing on reaching the next phase, phase 1, the capacity to compile GDP data by production and expenditure.

The typical tasks of a national accounts department are:

- Collecting statistical and administrative data sources;
- Translating the statistical and administrative data sources into concepts of national accounts. This task may be done by the national accounts department in cooperation with other departments of the statistical office and with experts from other institutions such as the Central Bank (for the

financial sector and rest of the world) and the Ministry of Finance (for government statistics.). It is important to note that very often the staff of the national accounts department are the most important and knowledgeable users of statistical and administrative data;

- Elaborating national accounts indicators;
- Preparing publications and other documents for the dissemination of national accounts;
- Making proposals and taking actions to improve data sources and compilation methods to meet SNA requirements as far as possible.

Implementation of the SNA is quite complex; to ensure efficient and coordinated coverage of methodological issues, a certain level of specialization among staff members is necessary.

Staff specialization is determined by the main tasks of national accounts department. Depending on the objectives set, the tasks may refer to: elaboration of GDP by production and expenditure approaches, at current and constant prices, compilation of GDP by income approach, elaboration of the SUTs, estimation of institutional sectors accounts, etc.

Proper integration of the SUTs and the sector accounts undoubtedly demands a certain level of knowledge of SNA methodological requirements, compilation practice, economic characteristics, etc. from those in charge. In this context, national accountants should be very well acquainted with the theoretical and practical problems involved in the compilation process. Sometimes, a person can combine specialization in the compilation of a transaction (for example estimating production and intermediate consumption of public administration with the estimation of the final consumption of government). For other difficult tasks, such as balancing, reconciliation and final estimation of national accounts indicators, it is advisable to assign experts with experience and wide-ranging knowledge of methodological requirements and the characteristics of the economy. A list of possible expert specializations is shown in Table III.2.

The list is based on the typical tasks of the national accounts department. The number of persons depends on the objectives set for the implementation and development of the SNA, the capacity of the statistical office (including staff expertise) and the current situation of a country (population size, capacity of the administrative units to provide data, etc.).

**Table III.2: Possible specializations and staff numbers in a national accounts department**

TASKS	REQUIREMENTS	ENVISAGED NUMBER OF STAFF
Production, intermediate consumption and gross value added by main activity at current and constant prices (agriculture, mining, manufacturing industry, electricity, construction, transport, communication services, financial services, other services)	The experts may be responsible for one (such as agriculture, or manufacturing industry, or construction, etc.) or several related branches (such as construction and raw materials, construction industry, or agriculture and food industry, etc.)	3-5
Government indicators	The expert may be responsible for drawing up production, intermediate consumption, GVA of public administration and final consumption of government statistics	1
Household Final Consumption	Specialization relating to household budget surveys and unincorporated enterprises	1
Gross Fixed Capital	The person in charge of the construction sector may also be responsible for the drawing up the GFC; the person in charge of drafting agricultural and industry indicators may also be responsible for estimating change in inventory.	1
Balancing the system and final estimations	Coordinating the activity, experience and good knowledge of national accounts	2



Due to a lack of human and/or financial resources, it is possible that the necessary staff cannot be mobilized in developing countries wishing to meet the MRDS. Under such conditions, it is important to adapt compilation of national accounts to available staff. One example is presented in Box III.4.

Box III.4: National accounts for Malawi

NATIONAL ACCOUNTS FOR MALAWI

Presented at the
National Accounts Workshop for SADC Countries
Windhoek, Namibia, 16 – 19 June, 2009

by
Titus C.A. Nkhoma (Senior Statistician)
National Statistical Office (NSO)
Malawi

National Accounts Section

- NA is compiled by the National Accounts Section of the Economic Statistics Division of NSO.
- Based at the Regional Office (Centre) in Lilongwe
- There are currently only 5 professionals
 - Chief Statistician (Head of NA-BOP, Regional Officer)
 - Principal Statistician (Head of NA)
 - Senior Statistician and
 - Statisticians (2)
- No support staff

New National Accounts Estimates

- United Nations' SNA 1993 implemented
- Compiled using Supply and Use Tables (SUT)
- Compiled in current and previous year's prices
- Covering a period of four years from 2002 to 2005 (published)
- 2006 currently in final stages awaiting release
- Preliminary estimates for 2007 and 2008 are also available

Data Sources

- Annual Economic Surveys (AES)
- Medium Business Economic Survey (MBES 1998)
- Integrated Household Survey (IHS-2, 2004)
- Crop Estimate Surveys by Ministry of Agriculture
- Government Accounts from Ministry of Finance and the Accountant General
- Foreign Trade Statistics
- National Census of Agricultural and Livestock (NACAL 2007)
- Malawi Revenue Authority
- Reserve Bank of Malawi (RBM)
- Tobacco Control Commission (TCC)

Source: National Accounts Workshop for SADC countries, 16-19 June 2009, Windhoek, Namibia

2.2.2.2 Human resources

The compilation of national accounts requires that the staff involved possess special abilities in different domains: statistics, national accounts methodology, economics, etc. For these reasons, the persons in charge should have the following profile:

- A university education, wherever possible, in economics or statistics;
- Work experience in different economic domains;
- Ability to understand and apply the SNA methodology;
- Good knowledge of economic legislation and economic phenomena in the country;
- Good knowledge of the economic and social indicators existing in the statistical and administrative system.

To obtain this high level of professional capability the staff should be permanently trained and supported by the institution management.

Participation in training programmes organized by international or regional organizations and training seminars and workshops on the organization and management of national accounts and basic statistics (including economic, environment and financial statistics) as well as their application for evidence-based policy making is necessary for building statistical capability in the field of national accounts.

One fundamental principle of official statistics states that *'To retain trust in official statistics, the statistical agencies need to decide according to strictly professional considerations, including scientific principles and professional ethics, on the methods and procedures for the collection, processing, storage and presentation of statistical data'* (see the Fundamental Principles of Official Statistics, <http://www.unstats.un.org>).

In line with this principle and the need to develop a system of national accounts, the professional independence of national accountants must be ensured. This independence refers to:

- The definition of the system and its adaptation to the country;
- The methods used for estimating national accounts;
- Access to information, especially when it is protected (fiscal sources, defence information, etc.);
- The treatment and measurement of 'special' aspects of the economy, such as illegal activity (illegal labour, drug production, etc.) that are in fact the weak points of political power;
- Responsibility for the main indicators, such as GDP, economic growth rate or revenue distribution, especially when the values are different from government forecasts or expectations.

2.2.2.3 Organizing data collection

Once the SNA implementation strategy objective has been set and the national accounts department organized, the next step is to establish formal relationships for ensuring availability of the data required for compiling national accounts. Data collection for national accounts requires internal and external cooperation with the statistical office.

Statistical data sources are usually provided by different departments within the statistical office (responsible for industrial statistics, foreign trade, agriculture, demographics, education, health, prices, etc.) or even by other institutions. An efficient flow of information from them to the national accounts department has a decisive impact on the quality and timeliness of national accounts estimations. On the other hand, the methodological requests for the compilation of national accounts are the starting point for developing the overall statistical system.

Collection from administrative data sources depends on the capacity of the statistical office and its relations with other institutions: data may be collected by a different department (if resources allow for a special department) or by national accountants themselves (it being for them an additional task to their usual workload). Special formal relations based on agreements, protocols or memorandums with administrative institutions ensure access to their data. Even in the event of statistical legislation explicitly stipulating that the statistical office must have access to administrative data, it is necessary to have protocols or memorandums that establish the specific conditions under which data may be collected.

For example, the Ministry of Finance, is one of the most important providers of administrative data, and it can supply data on VAT (monthly, for each economic agent, by main activity, etc.), on capital gains tax, income tax, business account data, income and expenditure of local and central government, etc. Thus it is of the utmost importance that the statistical office should agree a cooperation protocol outlining, in principle:

- The data to be delivered;
- The level of detail of the data (individual, aggregated, by region, etc.) and the frequency (monthly, yearly, etc.);
- The data collection method (access to data base, electronic format, paper, etc.).

In this kind of cooperation protocol not only should administrative data be included, but also delivery of statistical indicators by the statistical office. It may be possible that the Ministry of Finance is also interested in having detailed statistical information (such as, for example, household expenditure in order to formulate its policy on subsidies). Thus, the protocol would include data exchange between the two institutions. Cooperation is important for the statistical office because it allows access to administrative data and at the same time strengthens its position in the economy as the main provider of economic and social indicators.

2.3 Phase C: Compilation

The compilation process should take into account resources (e.g. resources for compiling good economic and social statistics, price statistics, for maintaining a reliable business register or for compiling national accounts), policy (continuity and stability in the compilation process, priorities for some parts of national accounts, professional independence), professional skills of the staff (e.g. skills in analysing data and making plausible economic assumptions) and access to statistical and administrative data sources.

The compilation process is based on three elements:

- i. *Accounting identities* which means exploiting as far as possible the multitude of accounting identities existing in the system, such as: supply is equal to demand (both at current and constant prices); paid taxes should be equal to received taxes, etc. Accounting identities ensure consistency and can act as a plausibility check and permit residual estimates.
- ii. *Assumptions* essential for combining and completing the basic data set. Many types of assumptions are used, such as: fixed ratios, transition schemes, specific conventions, expert opinions, historical trends and ratios, analogies, etc. Plausible assumptions can remedy to a great extent the absence of data and are preferable to implausible data.
- iii. *Plausibility checks*, which are very important for the reliability of national accounts statistics. Types of plausibility checks are:
 - Comparison of different data sources and different estimates;
 - Investigation of all ‘abnormal’ developments and ratios (numerical, conceptual, institutional, economic) by seeking a plausible explanation.

The national accounts compilation strategy is based on:

1. Definition and organization of the different phases;
2. Development of the necessary IT tools.

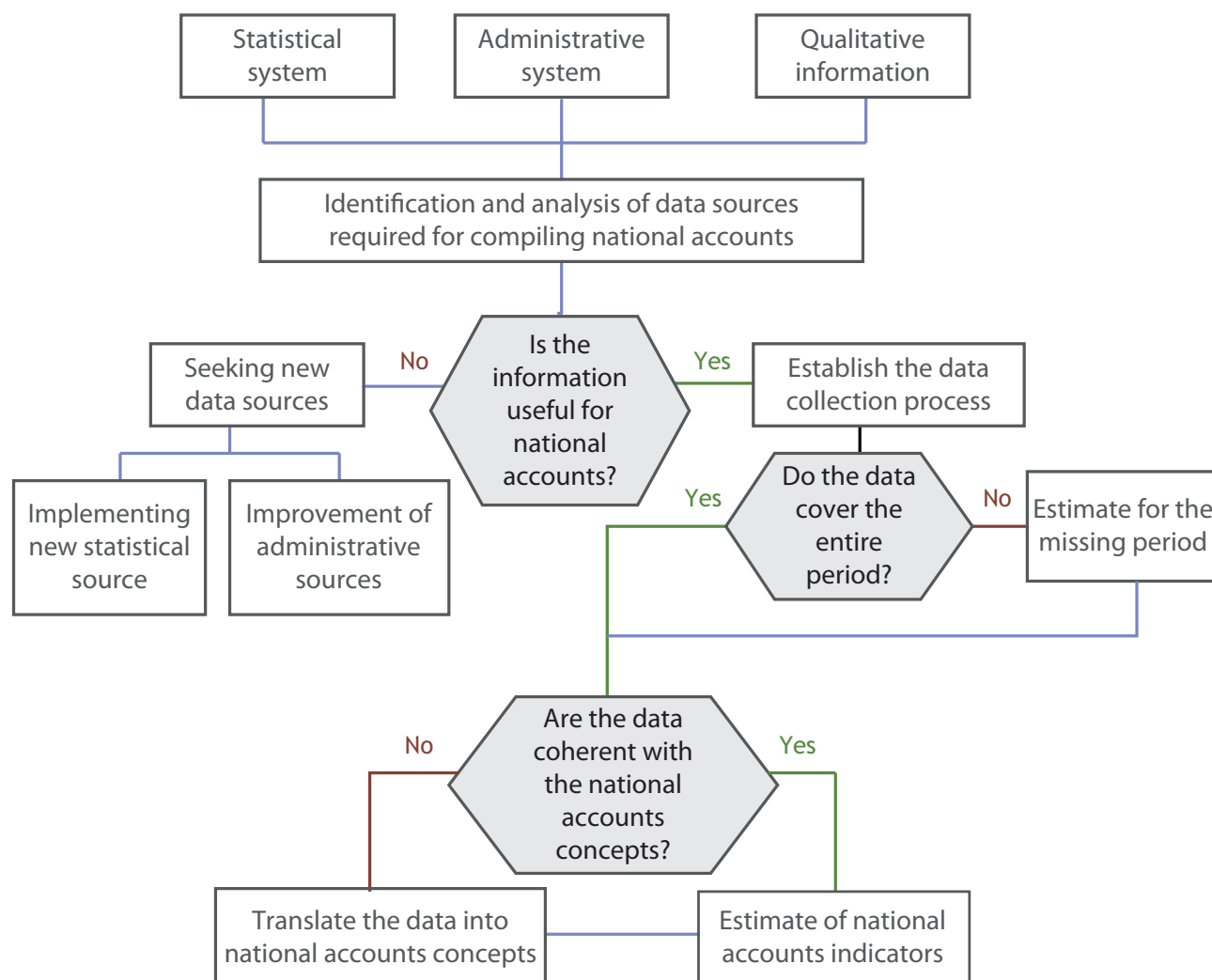
2.3.1 Definition and organization of the different phases

The compilation process has its own scope, detail and methods used and working methods, reflected in the design of the phases to be followed. Briefly, the main phases are:

- Designing the central framework;
- Identifying data sources;
- Collecting data;
- Translating data into national accounts concepts;
- Elaborating estimates;
- Data revision.

A schematic presentation of the national accounts compilation process is shown in Figure III.2

Figure III.2 Workflow of national accounts compilation



2.3.1.1 Designing the central framework

The central framework for compiling national accounts refers to the determination of the four classifications used in the system:

- Product detail;
- Economic activities;
- Transactions, other flows and stocks;
- Sectorization of the economy.

Classification details are based on the strategy aims and objectives set and the country's current situation. The central framework is established according to the development level of the statistical system (including the human resources capability) and the specific needs of the country. The availability of statistical and administrative data reduces or increases the detail of the classifications adopted.

The strategy for implementing classifications and the characteristics of the main classifications are outlined in Chapter V: *Statistical infrastructure for national accounts*, section.1.2: *Classifications*.

One important activity in this phase is the identification of the key sectors of the economy. If in a country, agriculture, the oil industry or tourism is the main activity, it should be reflected in detail in the estimates made and in the breakdown by industry or institutional sector.

2.3.1.2. Identifying data sources

The data sources used for compiling national accounts may be specific statistics (statistics on producer sales and production costs, on investment, on employment, wages and salaries, on household expenditures, on consumer prices, on producer prices and interest rates, on imports and exports,

etc.) or administrative records (government revenue and expenditure, financial statements of non-financial and financial units, balance of payments, etc.).

The main data sources used for compiling national accounts are set out in Chapter V: *Statistical infrastructure for national accounts*, section 2: *Statistical data sources* and section 3: *Administrative data sources*.

In order to identify available information, the existing data sources have to be analysed with respect to national accounts requirements. If the data sources identified are useful for the implementation objectives of the national accounts, the process of collecting data can start.

Data sources may not include all the information needed for implementing the national accounts strategy. For example, statistical information concerning construction and investments may not be available. In this case, depending on the type of information required and the objectives established, two options exist:

- To carry out a rough estimate of the national accounts indicators using poor data sources and indirect information, or

An example is given in Chapter V: *Statistical infrastructure for national accounts*, section 2: *Statistical data sources*.

- To halt implementation of SNA until the necessary data sources become available.

It is recommended that countries in phase zero of the SNA implementation define their future actions based on the following:

- Start estimating GDP by production and expenditure (corresponding to the requirements of phase 1), even if the lack of information may affect the quality of the initial results
- Ensure at the same time that the necessary data sources are developed. To do so national accountants must propose and promote:
 - Improvement of the existing statistical data sources to obtain the required information;
 - Implementation of new statistical surveys that will provide the missing information;
 - Development of collaboration with administrative institutions to improve or develop their data sources.

In the process of compiling national accounts, qualitative information is also relevant. For example, articles in newspapers or specialized magazines may provide qualitative information on developments in the economy (e.g. sales of

furniture or software) or specific events (e.g. a large direct investment project or the reorganization of a national insurance system). This information can be used to complete existing data and to check the consistency of different data.

2.3.1.3. Collecting data

Data collection requires structured and organized activity, which directly affects the quality of estimates.

The main activities that should be organized and carried out are:

- Agreements on data delivery: what data will be delivered, in what detail and with what frequency, when and in what format, etc.;
- Checks on the data delivered: timeliness, detail and completeness;
- Data storage in automated systems (spreadsheets or databases) for compiling national accounts;
- Searches for other relevant quantitative and qualitative information, e.g. by reading specialized journals, newspaper articles and annual reports of various large companies, organizations, foundations, or by asking corporations, institutions and experts directly.

As part of the compilation strategy, an efficient circuit of data collection internal and external to the statistical office must be established. The main steps in this process are:

- Decide what data is to be used for compiling national accounts;
- Decide the level of detail of this data;
- How the data will be delivered to the national accounts department: on paper, in electronic format (CD-ROM, by email, etc.) or direct access to the databases of other departments;
- Establish the deadline for receiving data. It is very important for national accountants to respect their own dissemination calendar. For this reason, some of the statistical and administrative data may be provided to national accounts department before being published. It is the case, for example (as statistical source), of the Structural Business Survey: after validating data and achieving final results, the detailed information (with the agreed content and format) may be sent to the national accounts department to be included in the compilation process. At the same time, the department in charge of the Structural Business Survey carries on with the task of disseminating the results of the survey.

Good cooperation between different departments of the statistical office and administrative institutions on the one hand, and the national account department, on the other, will ensure the right conditions for implementation of the SNA.



2.3.1.4 Translating data into the concepts of national accounts

Statistical and administrative data sources, in the majority of cases, are not consistent with national accounts concepts.

The translation of administrative data into national accounts concepts is outlined in detail in Chapter V: *Statistical infrastructure for national accounts*, section 3: *Administrative data sources*.

Statistical indicators generally convert administrative information into indicators with content not very different from that used in national accounts. However a major difference between economic statistical indicators and national accounts is often product breakdown. Box III.5 provides an example.

Box III.5: Conversion tables from COICOP to ISIC – an example

In household budget surveys product breakdown can be very limited or rather different from national accounts requirements. Household consumption is collected through various household surveys using the COICOP classification. In order to be used in national accounts, a reclassification to ISIC rev.4 should be carried out. It should be noted that for some COICOP products and groups of products, more than one ISIC activity is needed. Value estimation for each activity is made using other indirect sources or expert knowledge. For example, household 'meat' consumption should be classified under ISIC codes 01 'Agriculture, hunting and related services activities' and 15 'Manufacture of food products and beverages' based on population consumption habits.

COICOP		ISIC REV 4	
Code	Description	Code	Description
0.1.1	FOOD		
0.1.1.1	Bread and cereals	1	Agriculture, hunting and related service activities
		15	Manufacture of food products and beverages
0.1.1.2	Meat	1	Agriculture, hunting and related service activities
		15	Manufacture of food products and beverages
0.1.1.3	Fish and seafood	05	Fishing, operation of fish hatcheries and fish farms
		15	Manufacture of food products and beverages
0.1.1.4	Milk, cheese and eggs	1	Agriculture, hunting and related service activities
		15	Manufacture of food products and beverages
0.1.1.5	Oils and fats	15	Manufacture of food products and beverages
0.1.1.6	Fruit	1	Agriculture, hunting and related service activities
		15	Manufacture of food products and beverages
0.1.1.7	Vegetables	1	Agriculture, hunting and related service activities
		15	Manufacture of food products and beverages
0.1.1.8	Sugar, jam, honey, chocolate and confectionery	15	Manufacture of food products and beverages
0.1.1.9	Food products n.e.c.	15	Manufacture of food products and beverages
0.1.2	NON-ALCOHOLIC BEVERAGES		
0.1.2.1	Coffee, tea and cocoa	15	Manufacture of food products and beverages
0.1.2.2	Mineral waters, soft drinks, fruit and vegetable juices	15	Manufacture of food products and beverages

More information concerning correspondence tables of classifications are available to the UN website at: <http://unstats.un.org/unsd/cr/registry/default.asp>

For the most part, translating administrative concepts to national accounts concepts is to be performed by national accountants themselves. This applies especially to business accounts, VAT data, personal income tax data, financial statements of financial institutions, revenues and expenditures of general government, and BoP indicators, to name a few.

This translation is based on a system of bridge tables at macro-economic levels, and specific adjustments called the intermediate system.

2.3.1.5. Elaborating estimates

The important phase of the compilation process is estimating national accounts indicators. Several activities are carried out during this complex phase:

- Checking data sources, with respect to:
 - The evolution of the variables over time;
 - Consistency of the values and trends of the ratios between different variables in a single data source;
 - Plausibility of values and volumes;
 - Conceptual differences with national accounts indicators;
 - Weightings used for grossing up survey results.
- Elaboration of the first estimates of national accounts indicators. If the chosen target is to reach the first milestone (see Annex I), estimates will focus on GDP and its components at current and constant prices.
- Inclusion of additional or more complete data and second estimate of indicators. Assumptions play an important role at this stage: they are used to fill gaps and imperfections in the basic data set according to the analysis of economic relationships.
- Balancing procedures and reconciling data to identify data deficiencies and assist in making the appropriate adjustments to ensure consistency of results. Balancing involves checking the economic consistency of the estimates. This depends on the available accounting framework and national accountants' experience and ability to perform plausibility checks in combination with timeliness for data dissemination.
- Elaboration of the final estimates of national accounts indicators.

To find out more...

A system approach to national accounts compilation, Studies in Methods, series F, No.77, UN 1999;

The 2008 SNA, European Commission, IMF, OECD, UN, World Bank, 2009. Chapter XVI: Summarizing and integrating the accounts.

If statistical discrepancies have been identified during the balancing process and their causes determined, adjustments can be made to the intermediate data or estimation methods. The adjusted data will then be integrated again, leading to a revised set of statistical discrepancies. This data will then be reconciled and reintegrated and so on until all the discrepancies are eliminated.

The core of balancing and reconciling data will always depend on the availability and quality of information used and the expertise of the accounting team.

2.3.1.6 Data revision

In the process of compiling national accounts three important revisions can be made: (i) routine revisions, (ii) benchmark revisions and (iii) methodological revisions.

- Routine revisions (or current revisions)* encompass all changes in national accounts estimates for a particular period from the first to the final estimate. These revisions are in principle based on the availability of new information from data sources used to achieve full comparability in volume and prices changes with the previous year and for all indicators.
- Benchmark revisions (or major regular revisions)* are revisions of data sources or methods used for estimation of national accounts indicators. These can affect GDP and can cause discontinuity in time series. It is recommended that, as standard practice, benchmark revisions be carried out every five years.
- Methodological revisions (or major occasional revisions)* are normally due to changes in principles of national accounting.

These revisions have several implications for the dissemination of national accounts data as detailed explanations about major changes have to be presented with the data.

2.3.1.7 Conclusions

Implementing and developing the compilation of national accounts should take into consideration the following:

- It is not a strict chronological sequence of given steps. In practice, the steps are intertwined, interact strongly, can occur in somewhat different chronological sequences and have recursive loops.
- The compilation process is adapted and adjusted according to data sources, new economic, social and/or political conditions existing in a country and new international requirements in the field of statistics.

2.3.2 Developing IT tools for compiling national accounts

The computer systems used in the framework for compiling national accounts should be flexible and able to:

- a) Store detailed data used for compiling national accounts, relating to groups of economic agents, i.e. industries and sectors in electronic worksheets in their original format;
- b) Use the worksheets to convert the intermediate data obtained from different sources (censuses, surveys, administrative data sources, and intermediate statistical data) from their specific format to the format of the national



- accounts and record all adjustments made to the data, thus creating a complete compilation history;
- c) After conversion to the national accounts format, calculate appropriate national accounts aggregates. Faithful to the principle of the industry and sector orientation, the information for the total economy should be obtained only through aggregation of the resident sectors and industries;
 - d) Check data compatibility across industries and sectors by identifying statistical discrepancies in national accounts identities;
 - e) Provide helpful tools for the final data reconciliation process, e.g. by including data links between worksheets and the central framework tables, so that the impact of adjustments to the data in the worksheets is reflected immediately in the central SNA tables, where remaining statistical discrepancies can be checked;
 - f) Generate working tables that are helpful during the reconciliation process, e.g. transaction matrices in which, for each transaction, other flow or stock, the resources and the uses (or assets and liabilities) of different sectors may be confronted;
 - g) Store final estimates of national accounts and disseminated versions. This enables national accountants to set up a systematic analysis of the reliability of published data.

The need for common tools for implementing the SNA worldwide has led to the development of specialized software in national accounts among international organizations and developed countries. Advanced countries have developed tailor-made computer systems based on relational database packages such as: Access, Oracle, SAS, dBase, etc.

Other known IT tools for compiling national accounts are:

- ERETES (Equilibres ressources emplois, Tableaux entrées-sorties) is database software developed by a French consultancy firm at the University of Lyon, in cooperation with the Institut national de la statistique et des études économiques (INSEE) and Eurostat. This software is installed or being installed in approximately 27 countries⁽¹⁾ becoming very popular among Developing Countries and Least Developed Countries. The system is offered free of charge to users by the co-owners (EUROSTAT and the French Ministry of Foreign Affairs).
- IAS (Integrated Accounts System) is a software program developed by a group associated with the Institute of Social Studies (ISS) in The Netherlands and used in Caribbean countries like Aruba and the Netherlands Antilles.

- SNAPC (System of National Accounts on a Personal Computer) is the product of Statistics Sweden and is used in Southern Africa countries and others (e.g.: Belize, Namibia, Laos, Lesotho, South Africa, Zimbabwe, Jamaica and Kenya).

To find out more...

www.ERETES.net

For ERETES refer to the bi-annual newsletter of the Inter-Secretariat Working Group on National Accounts 'SNA News and Notes' issue 5 (January 1997); available from: <http://unstats.un.org/unsd/nationalaccount/sna/sna5-en.asp>

For IAS refer to the bi-annual newsletter of the Inter-Secretariat Working Group on National Accounts 'SNA News and Notes' issue 6 (July 1997), available from: <http://unstats.un.org/unsd/nationalaccount/sna/sna6-en.asp>

ERETES and IAS include three elements:

- The use of database software (SYBASE, ORACLE and PROGRESS);
- Selection of SNA and compilation attributes (transaction categories, sector and industry categories, identification of current or constant prices, data source, etc.);
- Worksheets and tables where data conversion and reconciliation takes place.

Selection of attributes and the design of tables determine how national accounts are compiled. Conditions in each country, statistical capability and available resources determine the strategic decision of whether to use IT tools for compiling national accounts.

2.4 Phase D: Dissemination

The main objective of compiling the SNA is to provide comprehensive knowledge of an economy and its structure. The dissemination of national accounts results is an activity as important as the compilation of indicators. Presenting national accounts indicators to the public, adding an analysis, providing useful economic interpretations and understanding the methodology used are an important part of national accountants' tasks.

(1) Algeria, Benin, Burkina Faso, Botswana, Brazil, Cameroon, Cape Verde, Central African Republic (RCA), Colombia, Ivory Coast (RCI), Ecuador, Gabon, Ghana, Guadeloupe, Guiana, Madagascar, Mali, Morocco, Martinique, Mauritania, Niger, Nigeria, Peru, Reunion, Senegal, Togo, Tunisia.

Box III.6: Principles of a statistical dissemination strategy

A dissemination strategy is based on good practices in official statistics adopted by the EU and the UN. The main principles of a statistical dissemination strategy are:

- Statistics must be relevant for users, comprehensive and as detailed as possible in statistical terms, while complying with requirements regarding legislation, confidentiality and quality, and produced in a cost-effective way
- Statistics must be accurate, reliable, consistent and comparable in space and time
- Statistics must be up-to-date and disseminated in a timely and punctual manner
- Statistical information must be released according to a pre-announced schedule and presented in a clear and understandable form to all users
- The confidentiality of disseminated statistical data must be ensured
- Data must be made available on an impartial and objective basis to all users.

Source: *Dissemination Policy*, INE, Portugal, 2008

The main steps involved in defining the dissemination strategy are summarized in the following sections:

2.4.1 Users identification

Five major user categories stand out by area of activity:

- All levels of government;
- International agencies;
- The private sector;
- Research institutions;
- The public, including the media.

They can be grouped into two categories with respect to the intensity of statistical use:

- General Data Users: journalists, students, teachers, small businesses who have simple data requirements but from a great range of information;
- Analysis Users: government departments, local authorities, researchers, international organizations with complex data requirements on detailed variables, time series and regional breakdowns.

The demand for national accounts data is different for each category of user. The value of GDP and the growth rate of the economy is the information most utilized by general users. Policy makers, government, researchers, international organizations are interested in the details of national accounts indicators, by activity and institutional sector.

To meet these different demands, dissemination of national accounts is made using different channels:

- Press releases, used in general by the media and the general public with the presentation of the main national accounts indicators, such as GDP, its main components and growth rate.
- Detailed information on national accounts by industry or institutional sector is usually presented in the Annual Yearbook of each country. This information can be used by researchers, students or international organizations.
- A special publication with time series of national accounts indicators, with detailed data, accompanied by metadata and sometimes by a short economic analysis based on these indicators. This publication is used for different purposes by government, researchers, academic media or international organizations.
- Electronic dissemination that offers the opportunity to reduce the costs of dissemination and make information more usable and accessible. However, to move to an environment in which documents are disseminated in electronic format, a number of challenges would have to be overcome (such as ensuring that these documents are authentic, permanently maintained, and equally accessible to all individuals).

2.4.2 Providing quality data that meet users expectations

Users expect quality information. If this cannot be provided the user will stop asking for data and try to find it elsewhere. Quality is normally defined in terms of **accuracy, relevance, timeliness, consistency and availability** in no specific order.

To find out more...

Quality framework and guidelines for OECD statistical activities,
http://www.oecd.org/document/43/0,3343,en_2649_33715_21571947_1_1_1_1,00.html

The dissemination of national accounts should be integrated into the general statistical dissemination strategy, having as its main objective to provide data of the expected quality for users. This should take into consideration:

- The details of information disseminated according to target audience;
- Presentation of results in a comprehensive structure;
- Provision of all necessary methodological explanations, to help users understand national accounts concepts;
- National accounts represent a special overview of the economy and the dissemination of data without economic analysis and interpretation of the results is not advised, even if this imposes additional work on national accountants. The analysis will help users not familiar with



these indicators to understand better national accounts and their possibilities to reflect the economic phenomena.

Box III.7: Data Quality Assessment Framework (DQAF) and Reports on Observance of Standards and Codes

The IMF uses the Data Quality Assessment Framework (DQAF) in its data modules of the Reports on Observance of Standards and Codes (data ROSCs) as a tool to evaluate the quality of country practices in producing macroeconomic statistics. The DQAF comprises six dimensions:

- Prerequisites of quality includes organizational aspects;
- Assurances of integrity covers objectivity in collecting, processing and disseminating statistics;
- Methodological soundness analyses the standards adopted in the compilation process;
- Accuracy and reliability covers the data sources and statistical methods used in compiling the statistics;
- Serviceability deals with fitness for use criteria, such as periodicity and timeliness, temporal and internal consistency;
- Accessibility presents how effectively data and information about data are disseminated to users.

Source: IMF, <http://dsbb.imf.org>

2.4.3 Establishing a calendar for dissemination

For data to be useful, it is widely recognized that it should be available in a reasonable and timely manner. Such an expectation, especially in the field of national accounts is not easy to fulfil. Compilation is not simply computer processing: national accounts compilers need very diverse raw data from statistical and administrative systems available at different periodicity; after data is collected, this information needs to be converted into national accounts and the consistency of the entire system to be verified. This process has a large impact on the timeliness of dissemination.

As general framework for their dissemination strategy, countries intending to implement the SNA are recommended to adopt the International Monetary Fund's 'Special Data Dissemination Standards' (SDDS) and 'General Data Dissemination Standards' (GDDS).

The main purpose of the SDDS, established and promoted by the IMF in 1996 is to monitor the standards used to guide countries in the dissemination of economic and financial data. Several dimensions are monitored in the SDDS: a 'data' dimension (relating to coverage, frequency and timeliness of data), an 'access' dimension, an 'integrity' dimension and a 'quality' dimension (see Box III.8). The SDDS prescribes that countries disseminate key macroeconomic data covering the real, fiscal, financial, and external sectors.

Box III.8: Dimensions and Elements of the Special Data Dissemination Standard

Data Dimension (coverage, periodicity, and timeliness)

- Dissemination of 18 data categories, including component detail, covering the four main macroeconomic statistical sectors, with prescribed periodicity and timeliness.

Access Dimension

- Dissemination of advance release calendars providing notice at least one quarter ahead of approximate release dates, and notice at least one week ahead of the precise release dates;
- Simultaneous release of data to all users.

Integrity Dimension

- Dissemination of the terms and conditions under which official statistics are produced and disseminated;
- Identification of internal government access to data before release;
- Identification of ministerial commentary on the occasion of statistical release;
- Provision of information about revision and advance notice of major changes in methodology.

Quality Dimension

- Dissemination of documentation on statistical methodology and sources used in preparing statistics;
- Dissemination of component detail and/or additional data series that make possible cross-checks and checks of reasonableness.

Source: *The IMF's Data Dissemination Initiative After 10 Years*, IMF 2008

The GDDS followed the SDDS and was developed in 1997 to assist those IMF's member countries that are not in a position to subscribe to the SDDS, to develop nevertheless a sound statistical system as the basis for timely dissemination of data to the public. The purposes of the GDDS are to encourage member countries:

- To improve data quality;
- To provide a framework for evaluating needs for data improvement and setting priorities in this respect;
- To guide member countries in disseminating comprehensive, timely, accessible, and reliable economic, financial, and socio-demographic statistics to the public.

Together, these three priority areas constitute a solid basis on which to formulate long-run policies for statistical development.

To find out more...

SDDS and GDDS at www.imf.org

The IMF's Data Dissemination Initiative After 10 Years, IMF 2008.

3. Recommended reading

- *The 2008 SNA*, European Commission, IMF, OECD, UN, World Bank, 2009;
- *National Accounts: A practical introduction*, Studies in Methods, Series F, No.85, UN 2003; Chapter XIV: Data collection, compilation and estimation methods: a summary;
- *Guide to statistics in EC development co-operation*, Eurostat, 2009;
- *A system approach to national accounts compilation*, Studies in Methods, Series F, No.77, UN 1999; chapter I: The compilation approach;
- *Uses of Macro Accounts in Policy Analysis*, Studies in Methods, Series F, No.81, UN 2002; Chapter IV: Policy analysis beyond the economic core; Chapter V: Administrative and other policy uses of national accounts by international organizations and countries;
- *Use, misuse and proper use of national accounts in statistics*, Fritz B., MPRA, 2007; Chapter IV: Tool for communication and decision making;
- *Compiling the national accounts demystified*, Fritz B., MPRA, 2007; Chapter III: The compilation process; chapter V: How to improve compiling national accounts;
- *Quality framework and guidelines for OECD statistical activities*, OECD, 2003;
- *A Guide to Designing a National Strategy for the Development of Statistics (NSDS)*, Paris 21 Secretariat, 2004 (<http://www.paris21.org/documents/1401.pdf>).
- *Fundamental principles for the official statistics*, UN <http://unstats.un.org/unsd/dnss/gp/fundprinciples.aspx>;
- *General Data Dissemination System*, IMF <http://dsbb.imf.org/Pages/GDDS/home.aspx>;
- *Special Data Dissemination Standard*, IMF <http://dsbb.imf.org/Pages/SDDS/Home.aspx>;
- *The IMF's Data Dissemination Initiative After 10 years*, IMF 2008; Chapter I: International data dissemination standards; chapter III: The general data dissemination system: what has been accomplished after 10 years and where do we go from here;
- *The future dissemination of OECD statistics: a policy proposal*, OECD, 2006;
- *Global assessment of the availability, periodicity, timeliness and dissemination of high- frequency indicators*, UNSD paper presented at the Workshop on International Economic and Social Classifications, Mali, January 2010;
- *Communicating with the Media - A guide for statistical organizations*, UNECE, UN 2004; Chapter I: Principles, objectives and management issues in data dissemination; Chapter II: Organizational aspects of dissemination;
- *Making Data Meaningful- Part I- A guide to writing stories about numbers*, UNECE UN, 2009;
- *Making Data Meaningful- Part II- A guide to presenting statistics*, UNECE, UN 2009;
- *Making Data Meaningful- Part III- A guide to communicating with the media*, UNECE, 2011;
- *Best practices in designing websites for dissemination of statistics*, United Nations Statistical Commission and Economic Commission for Europe, UN 2001;
- *Construire les comptes de la nation*, Michel Seruzier, Economica 1993; Chapter XVII: Environnement nécessaire à la construction des comptes de la nation;
- *Manual de la comptabilité nationale, Comptabilité de la production: Sources et méthodes*, Etudes méthodologiques, Séries F, No, 39, UN 1987.

Basic Concepts

IV

The chapter in brief

The basic concepts of the 2008 SNA presented in the first section of the chapter offer a broad view of the fundamental requirements that should be envisaged in the strategic development of national accounts. They centre around the main categories that form the skeleton of the system: stakeholders in the economy, the economic activities they perform, and the scope of their actions, the rules applied to evaluating national accounts indicators. A separate section provides evidence relating to the main aggregates obtained from national accounts and used to characterize the economy.

1. Basic Concepts

SNA should be able to describe economies which, over time, are becoming increasingly complex, whilst envisaging at the same time descriptive simplicity. They cover a wide variety of situations, from developed countries to developing countries, least developed countries and countries in transition. Irrespective of the stage of development, in order to ‘measure

the economy’, commensuration limits need to be properly defined.

The 2008 SNA is a **system of macroeconomic accounts** based on a set of concepts, definitions, classifications and registration rules. It provides a framework within which economic data can be collected and analysed to assist decision-makers and provide guidance on economic policies.

National accounts aim to describe the economic activity (measurable in monetary terms) of every unit of a national economy. The basic concepts of the SNA are used to analyse and aggregate the numerous aspects of the elementary actions in the economy, and are capable of answering important questions:

- Who takes action in the economy?
- What do they do?
- Why do they take action?
- How are the actions known?

The definitions, classifications and accounting rules in the SNA give answers to these questions (see table IV.1).

Table IV.1: Main concepts of the 2008 SNA

QUESTION	EXPLANATION	THE 2008 SNA CONCEPTS
Who?	Refers to the economic agents (institutions, firms, individuals) that perform activities in the economy.	Institutional units Institutional sectors Total economy and the rest of the world
What?	Refers to the transactions and other flows and stocks, which are the objects of the economy.	Transactions and other flows Assets and liabilities Products and producing units
Why?	Refers to the reason why an economic agent takes an action	Classifications by purposes of expenditure
How?	Refers to the recording of who, what and why.	Accounting rules: – recording – time of recording – valuation – consolidation and netting

To find out more...

The 2008 SNA, European Commission, IMF, OECD, UN, World Bank, 2009, Chapter II: Overview, Chapter III: Stocks, flows and accounting rules, Chapter IV: Institutional units and sectors, and Chapter V: Enterprises, establishments and industries.

1.1 WHO? Institutional units and sectors

The SNA is designed to represent the economy in a simplified way. However, given the complexity of an entire economy, a difficult task of aggregation is required which uses specific classifications:

- Classification by industry, called ‘functional classification’ because it represents the production process and the

flows experienced by goods and services produced in the economy, in other words, it shows the balance between supply and demand. In this case, units are defined according to their technical-productive profile, so they are units of production in the strict sense of the term.

- Classification by institutional sector is another approach to the production process where the units are defined according to their economic behaviour, economic function and economic objectives. This classification highlights how income is obtained and distributed in an economy, how share capital is generated and how this is financed.

Classification by industry is linked to SUTs while institutional classification is associated with integrated economic accounts (IEA).

Definition

An institutional unit is an economic entity that is capable, in its own right, of owning assets, incurring in liabilities and engaging in economic activities and in transactions with other entities.

Source: *The 2008 SNA*, European Commission, IMF, OECD, UN, World Bank, 2009, Chapter IV: Institutional units and sectors, point 4.2

An institutional unit has the following characteristics:

- It is entitled to own goods or assets in its own right; it is therefore able to exchange ownership of goods or assets in transactions with other institutional units;
- It is able to take economic decisions and engage in economic activities for which it is itself held directly responsible and accountable at law;
- It is able to incur liabilities on its own behalf, to take on other obligations or future commitments and to enter into contracts;
- It has a complete set of accounts, including a balance sheet of assets and liabilities, or it would be possible and meaningful, from an economic viewpoint, to compile a complete set of accounts if required.

Essentially two types of institutional units exist in an economy:

a) Persons or a household

Definition

A household is defined as a group of persons who share the same living accommodation, who pool some, or all, of their income and wealth and who consume certain types of goods and services collectively, mainly housing and food.

Source: *The 2008 SNA*, European Commission, IMF, OECD, UN, World Bank, 2009, Chapter IV: Institutional units and sectors, point 4.4.

In the same category are included groups of persons staying in hospitals, retirement homes, prisons for long periods of time.

b) Legal or social entities

Definition

A legal or social entity is one whose existence is recognized by law or society independently of the persons or other entities that may own or control it.

Source: *The 2008 SNA*, European Commission, IMF, OECD, UN, World Bank, 2009, Chapter IV: Institutional units and sectors, point 4.6.

In respect of legal units, the 2008 SNA distinguishes three main categories:

- Corporations (financial and non-financial) are entities capable of generating profit or other financial gain for their owners, are recognized by law as separate legal entities from their owners who enjoy limited liability and are set up for purposes of engaging in market production. Under this category are included legally constituted corporations (such as incorporated enterprises, public limited companies, public corporations, private companies, joint-stock companies, limited liability companies, limited liability partnerships, etc.), national resident units (non-resident units which have a centre of predominant economic interest in the economic territory of a country other than their prior resident country) and quasi-corporations (an unincorporated enterprise owned by a resident institutional unit that has a complete set of accounts and is operated as if it were a separate corporation and whose de facto relationship to its owner is that of a corporation to its shareholders).
- Non-profit institutions (NPIs) that are created for the purpose of producing goods and/or services but whose status does not permit them to be a source of income, profit or other financial gain for the units that establish, control or finance them.
- Government units are legal entities established by political processes. They have legislative, judicial or executive authority over other institutional units within a given area. The principal functions of government units are to assume responsibility for the provision of goods and services to the community or to individual households and to finance their provision out of taxation or other incomes, to redistribute income and wealth by means of transfers, and to engage in non-market production.

Institutional units are grouped together into **institutional sectors** on the basis of their principal functions, behaviour and objectives.

The 2008 SNA includes five main institutional sectors:

1. Non-financial corporations;
2. Financial corporations;
3. General government;
4. Households;
5. Non-profit institutions serving households (NPISHs).

For the SNA to provide information concerning relations between a national economy and the *rest of the world*, transactions between residents and non-residents, such as claims by residents on non-residents, and vice versa are recorded in the rest of the world. It is not a sector for which complete sets of accounts have to be compiled, although it is often convenient to describe the rest of the world as if it were a sector. The rest of the world includes certain institutional units that may be physically located within the geographical boundary of a country, for example, foreign enclaves such as embassies, consulates or military bases, and also international organizations.

The allocation of a unit to an institutional sector is based on the following questions:

- Is the unit resident?
- Is it a household, institutional household (ex. a hospital) or a legal unit?
- Is the unit a non-market or market producer?
- Is the unit controlled by the government?
- Does the unit provide financial services?
- Is the unit foreign-controlled?

To find out more...

The 2008 SNA, European Commission, IMF, OECD, UN, World Bank, 2009 Chapter IV: Institutional units and sectors.

Institutional units can also be grouped according to ownership. A distinction is made between public, national private and foreign-controlled corporations. National private and foreign-controlled corporations belong to the private sector. General government belongs to the public sector in its entirety. Households and NPISHs belong to the private sector. Corporations are classified as public if the government, normally through ownership of more than half of the voting shares, controls them through government units or other public corporation(s). Control by government may also be due to special legislation. The criterion of owning more than half of the voting shares also applies to the classification of corporations into national private or foreign-controlled.

Table IV.2: Institutional units cross-classified by sector and ownership

Sector \ Ownership	Non-financial corporations sector	Financial corporations sector	General government sector	Households sector	NPIs serving households sector
Public sector	Public non-financial corporations	Public financial corporations	All government units and government NPI		
National private sector	National private non-financial corporations	National private financial corporations		All households	All NPIs serving households
Foreign-controlled sector	Foreign-controlled non-financial corporations	Foreign-controlled financial corporations			

Source: *System of National Accounts 1993 Training manual*, SADC, 1999.

1.1.2 The total economy and the concept of Residence

The **total economy** is defined in terms of institutional units.

Definition

Total economy is defined as the entire set of resident institutional units.

Source: *The 2008 SNA*, European Commission, IMF, OECD, UN, World Bank, 2009, Chapter IV: Institutional units and sectors, point 4.23.

The **economic territory** of a country does not coincide exactly with its geographical territory. The term 'economic territory' means the geographical territory administered by a government within which persons, goods, services and capital move freely. It also includes international waters declared as an exclusive economic zone where the country enjoys exclusive fishing, fuel and mineral exploitation rights. Finally, certain enclaves in foreign countries, such as embassies, consulates and military bases, are included in an economic territory. On the other hand, enclaves in a country used by

foreign governments and international organizations are excluded from the economic territory of that country.

The concept of economic territory in the 2008 SNA coincides with that of the Balance of Payments and Investment Position Manual, sixth edition.

Residence:

Definition

The residence of each institutional unit is the economic territory with which it has the strongest connection, in other words, its centre of predominant economic interest.

Source: *The 2008 SNA*, European Commission, IMF, OECD, UN, World Bank, 2009, Chapter IV: Institutional units and sectors, point 4.10.

The concept of residence is not based on citizenship or legal criteria. Having a **centre of predominant economic interest** in a territory implies being engaged for an extended period (usually one year or more) in economic activities in this te-

territory (e.g. to have ownership of land or ownership of structures or to engage in production in a territory).

Some clarifications on residence:

a. A **household** is resident when it maintains a dwelling that the members of the household treat and use as their principal residence. All individuals who belong to the household are also residents. There are several special cases for considering households still resident:

- Students continue to be resident in the territory in which they were resident prior to studying abroad;
- Patients going abroad for the purpose of medical treatment, even if the treatment takes a year or more;
- Crews of ships, aircraft, oil rigs, space stations etc. that operate outside a territory or across several territories;
- Diplomats, military personnel and other civil servants employed abroad in government enclaves;
- Cross-border workers, who maintain their principal dwelling in the national territory;
- Refugees, when they do not change their home territory regardless of their legal status or intention to return.

b. A **corporation or quasi-corporation** is considered as resident if it maintains at least one establishment where it plans to operate over a long period of time, e.g. at least one year. Practical considerations must often be made regarding construction by foreign enterprises, as they usually are borderline cases.

1.1.3 Enterprises, Establishments and Industries

Units engaged in production are recognized by the 2008 SNA as **enterprises**.

Definition

An enterprise is the view of an institutional unit as a producer of goods and services.

Source: The 2008 SNA, European Commission, IMF, OECD, UN, World Bank, 2009, Chapter V: Enterprises, establishments and industries, point 5.1.

An enterprise may be a corporation, a quasi-corporation, a non-profit institution or an unincorporated enterprise.

An institutional unit such as a corporation may be engaged in different kinds of production activities in different locations, producing various kinds of goods and services. This implies that some institutional units must be divided into smaller and more homogeneous units. Homogeneous activity is one criterion for dividing an enterprise into **kind of activity unit** (KAU).

Definition

A kind-of-activity unit is an enterprise, or a part of an enterprise, that engages in only one kind of productive activity or in which the principal productive activity accounts for most of the value added.

Source: The 2008 SNA, European Commission, IMF, OECD, UN, World Bank, 2009, Chapter V: Enterprises, establishments and industries, point 5.12.

An enterprise engaged in different activities has one or more locations and for the purposes of differential analysis it is useful to divide it accordingly into local units.

Definition

A local unit is an enterprise, or a part of an enterprise, that engages in productive activity at or from one location.

Source: The 2008 SNA, European Commission, IMF, OECD, UN, World Bank, 2009, Chapter V: Enterprises, establishments and industries, point 5.13.

The combination of location and kind of activity of an enterprise results in what is called an **'establishment'**.

Definition

An establishment is an enterprise or part of an enterprise that is situated in a single location and in which only a single productive activity is carried out or in which the principal productive activity accounts for most of the value added.

Source: The 2008 SNA, European Commission, IMF, OECD, UN, World Bank, 2009, Chapter V: Enterprises, establishments and industries, point 5.14.

Establishments are also called *local kind-of-activity units* (LKAU).

Establishments allow for the possibility of carrying out one or more secondary activities, although they should be on a small scale compared to the principal activity. The main activity of an enterprise may also involve ancillary activities that facilitate the efficient running of the enterprise but do not normally result in goods and services that can be marketed (for example keeping records, purchases of material and equipment, repair and maintenance of machinery and equipment, cleaning and maintenance of buildings and premises, sales promotion, etc.) but which could not be separately identified.

An enterprise may have one or more establishments. On the other hand, an establishment can belong to one and only one enterprise. In practice, an establishment may usually be identified with an individual workplace in which a particular kind of productive activity is carried out: an individual farm, mine, quarry, factory, plant, shop, store, construction site, transport depot, airport, garage, bank, office, clinic, etc.

A complete set of accounts, including balance sheets, cannot be compiled for an establishment because it cannot have own assets, incur liabilities or engage in transactions with other entities in its own right. The only data that can be meaningfully compiled for an establishment are:

- The items included in the production and generation of income accounts;
- Gross fixed capital formation and changes in inventories;
- Stock of fixed capital and land;
- Number of employees, types of employees, hours worked.

A SNA distinguishes, as an essential feature of its structure, between establishments that are **market producers, producers for own final use and non-market producers**. Market establishments produce goods and services mostly for sale at prices that are economically significant. Producers for own final use produce goods and services mostly for final consumption or fixed capital formation by the owners of the enterprises in which they are produced. Non-market establishments supply most of the goods and services they produce without charge or at prices that are not economically significant.

A group of establishments engaged in the same, or similar, kinds of activity are classified into one **industry** according to ISIC, Rev. 4. The classification refers to the principal activity of the establishment as defined above. Certain activities produce more than one product simultaneously, while the same product may sometimes be produced by using different production techniques. The most important criterion used for classifying industries is the type of goods and services produced.

Definition

An industry consists of a group of establishments engaged in the same, or similar, kinds of activity.

Source: The 2008 SNA, European Commission, IMF, OECD, UN, World Bank, 2009, Chapter V; Enterprises, establishments and industries, point 5.46.

1.2 WHAT? Flows and Stocks

The aim of SNA accounts, tables and balance sheets is to register in monetary terms the economic actions or events that take place within a given period of time and the effect of these events on the stocks of assets and liabilities at the beginning and end of that period.

In the economy, institutional units have various economic functions: they produce, consume, save, invest, etc. When they produce, they can be engaged in various type of production (agricultural, industrial, trade, etc.) as entrepreneurs, providers of labour or suppliers of capital. The actions they undertake are aimed at creating, transforming, exchanging, transferring economic value, or changing the volume, com-

position or value of assets and liabilities. All these actions are **economic flows**.

The 2008 SNA distinguishes two broad categories of economic flows:

i. Transactions

Transactions are economic flows that result from interaction between institutional units by mutual agreement and can take place within institutional units or between establishments belonging to the same enterprise. The main types of transactions are:

- Transactions in goods and services (products) describe the supply of products (domestic output or imports) and the use of products (intermediate consumption, final consumption, capital formation or exports). An example would be the output of shirts produced by an enterprise, the intermediate consumption of textiles and buttons used in the production of the shirts, investments in a new sewing machine, etc.
- Distributive transactions comprise:
 - Transactions by which the income generated in production (value added) is distributed as compensation of employees, or as taxes on production and imports (less subsidies), or as property income to different institutional sectors and the rest of the world (for instance gross salaries paid by the enterprise manufacturing shirts to its employees);
 - Transactions by which the generated income is redistributed as transfers between institutional sectors and/or the rest of the world (e.g. a general insurance premium paid by the enterprise for the building where the shirts are produced).
- Transactions in financial instruments include acquisitions and disposals of financial assets and incurrence, net of liabilities (e.g. the manufacturing enterprise pays for the raw material by cheque, with money from the deposit in national currency constituted in a bank).
- Other accumulation entries, as results of the transactions defined above (e.g. the holding gain of the enterprise due to price increases over a year of the value of the stock of the produced shirts).

Transactions in goods and services are also classified according to type of product. The 2008 SNA recommends the use of the Central Product Classification (CPC) Version 2 for the classification of goods and services. Besides products that, by definition, must be the output of productive activities, the CPC also accommodates some non-produced assets, such as land, patents, licences, trademarks and copyrights.

There are other schemes of classification of goods, mainly used in foreign trade statistics, namely the Harmonized System (HS 2007), which is very detailed, and the Standard In-

International Trade Classification (SITC) Rev.4. Both HS and SITC are also used in industrial statistics. These have a different dimension for classification of products compared to that used by CPC, namely the classification of products as market, own-account or other non-market products.

Chapter V: *Statistical infrastructure for national accounts*, section 1.2: *Classifications* presents the main classifications used in the statistical system and the SNA.

Transactions may be categorized as monetary (e.g. a good is purchased or sold at a given number of units of currency) or non-monetary (e.g. barter and consumption of fixed capital).

They can both be either of two kinds:

- Transactions with counterparts ('something for something'). There is an exchange between two parties in the transactions in products, labour, and/or assets.
- Transactions without counterparts ('something for nothing'). Only one party to the transaction gets something. Examples are taxes, social assistance and gifts in kind. Such transactions are called transfers.

ii. Other economic flows

Other economic flows arise from non-economic phenomena, recorded only in accumulation accounts. They include consumption of fixed capital, revaluation of assets and liabilities, economic appearance and disappearance of assets, natural growth of non-cultivated biological assets, uncompensated seizure and catastrophic losses of assets. Other accumulation entries cover transactions and other economic flows not previously taken into account, that change the quantity or value of assets and liabilities. They include:

- Acquisitions less disposals of non-produced non-financial assets;
- Other economic flows of non-produced assets, such as discovery or depletion of subsoil resources or transfers of other natural resources to economic activities;
- The effects of non-economic phenomena such as natural disasters and political events (for example, wars) and finally, they include holding gains or losses, due to changes in prices, and some minor items.

Stocks are a position in, or holdings of, non-financial (produced or non-produced) assets and the financial assets and liabilities at a point in time. They must be subject to ownership rights (economic ownership prevailing over legal ownership) and must also be used in some kind of economic activity. Consumer durables are excluded, as are natural resources that are not owned.

Flows and stocks are recorded on both sides of accounts and balance sheets. A **balancing** item is derived as the difference

between the sums of the entries on both sides of an account or balance sheet. Balancing items have analytical significance of great importance. As a matter of fact, many important variables in national accounts are calculated as balancing items, e.g. value added.

More information concerning balancing items are presented in Chapter IV: *Basic concepts*, section 3: *Main aggregates*.

1.3 WHY? Purposes

From the SNA point of view, purpose means the function relating to the type of need a transaction or group of transactions aims to satisfy. Transactions are first analysed in the SNA according to their nature. For certain sectors or type of transactions, they are analysed by purpose, in answer to the question 'for what purpose?'

In this case, the SNA recommends using the following classifications for functional analysis:

- **COICOP - Classification of Individual Consumption by Purpose** (and of household final consumption expenditure);
- **COFOG - Classification of the Functions of Government** (used to classify consumption expenditure, other current expenditure, capital expenditure and other government outlays); COPNI - Classification of the Purposes of Non-profit Institutions serving households (used to classify the same type of transactions as for governments);
- **Classification of Outlays of Producers by Purpose (COPP)** can provide information on the 'outsourcing' of business services.

More information concerning the classifications are provided in Chapter V: *Statistical infrastructure for national accounts*, section 1.2: *Classifications*.

1.4 HOW? Accounting Rules

Transactions of economic agents (who), of their actions (what) undertaken for different purposes (why) are recorded in the SNA according to clear rules (how).

1.4.1 The accounting model

National accounts are built according to the accounting model used in business accounting (see Chapter VI, section 3 Administrative data sources). The two accounting systems have the following similarities:

1. Two-side presentation

- The left side of a 'T' business account is called debit and the right side credit;

- In national accounts, the following terms are used:
 - **Resources** for transactions which add to the amount of economic value of a unit or a sector are presented on the right side of the account;
 - **Uses** for transactions that reduce the amount of economic value of a unit or sector are shown on the left side of the current account.

2. Double -entry principle

- Business accounting is based on the principle of double-entry, whereby one transaction requires two entries, in principle one credit and one debit;
- National accounts reflect mutual economic relationships between different institutional units based on 'horizontal' double entry. This means that if an institutional unit provides something to another institutions unit, the accounts of both units will show the transaction: as a resource in the accounts of one unit and as a use in the accounts of the other. As for example, the compensation of employees paid by different economic units should be equal to the sum received by employees.
- In the accounts of an institutional unit, each transaction must be recorded twice, as a resource (or a change in liabilities) and as a use (or a change in assets) (this is the so-called 'vertical' double – entry). Thus, the total of the transactions recorded as resources (or changes in liabilities) and the total of the transactions recorded as uses (or changes in assets) are equal, enabling consistency checking. Based on the previous example, the compensation of employees is recorded as a resource for the Household sector and as a use for other sectors. The simultaneous application of both the vertical and horizontal double-entry bookkeeping results in quadruple-entry bookkeeping, that is the accounting system underlying the recording in the SNA (financial accounts must be compiled to take full practical advantage of the quadruple-entry principle).

1.4.2 Time of recording

The time of recording in SNA is different for flows and stocks:

- Flows are recorded over a certain period of time;
- Stocks are recorded at a certain point of time, namely at the beginning (opening balance) and at the end of the accounting period (closing balance).

The accounting period in national accounts usually corresponds to the calendar year or a quarter of a year.

The time of recording must be the same for the entries in the different accounts of the all the stakeholders involved. There are three moments when flows can take place, each of them defining a basis for the timing:

- 'Cash basis' records cash flows at the time these payments occur;

- 'Due for payment basis' records flows at the time they are due to be paid;
- 'Accrual basis' records flows at the time economic value is created, transformed, exchanged, transferred or extinguished.

As a general principle, transactions between institutional units in SNA have to be recorded when claims and obligations arise, are transformed or are cancelled; this time represents the 'accrual basis'. For example, in May a company delivers computers to a customer who will pay for it 30 days later. Under the cash method, the revenue from this sale will be recorded in June, when the money will be received; however the accrual method requires recording the income in May, in the month when the transaction took place.

1.4.3 Valuation

Under SNA a transaction must be recorded at the same value throughout all the accounts of all the sectors involved.

Transactions are valued at the actual price agreed upon by the economic agents. The basic reference for valuation in the SNA is **current market prices**. In the absence of market transactions, valuation is made according to costs incurred (for example, non-market services produced by the government) or by reference to the market prices for analogous goods or services (for example, services of owner-occupied dwellings).

Transaction valuation methods used in the SNA are based on more than one set of prices depending upon how taxes and subsidies on products, and also transport charges, are recorded.

The measurement of output in SNA is taken using two kinds of prices, namely, basic prices and producers' prices.

Definition

The *basic price* is the amount receivable by the producer from the purchaser for a unit of a good or service produced as output minus any tax payable, and plus any subsidy receivable, by the producer as a consequence of its production or sale. It excludes any transport charges invoiced separately by the producer.

The *producer's price* is the amount receivable by the producer from the purchaser for a unit of a good or service produced as output minus any value added tax (VAT), or similar deductible tax, invoiced to the purchaser. It excludes any transport charges invoiced separately by the producer.

Source: The 2008 SNA, European Commission, IMF, OECD, UN, World Bank, 2009, Chapter VI: The production account, point 6.51.

Basic price measures the amount retained by the producer and is, therefore, the price most relevant to the producer's decision taking. It excludes any taxes on products the producer receives from the purchaser and passes on to government, but includes any subsidies the producer receives from government and uses to further lower the prices charged to purchasers.

The producer's price includes taxes on products (taxes payable per unit of output) and excludes subsidies on products (subsidies receivable per unit of output). It is the price, excluding VAT, that the producer invoices to the purchaser. It is becoming increasingly common in many countries for producers to itemize taxes separately on their invoices, so the purchasers are informed about how much they are paying for the product (to the producer) and how much for the taxes (to the government).

Definition

The *Purchaser's price* is the amount paid by the purchaser, excluding any VAT or similar tax deductible by the purchaser, in order to take delivery of a unit of a good or service at the time and place required by the purchaser. The purchaser's price of a good includes any transport charges paid separately by the purchaser to take delivery at the required time and place.

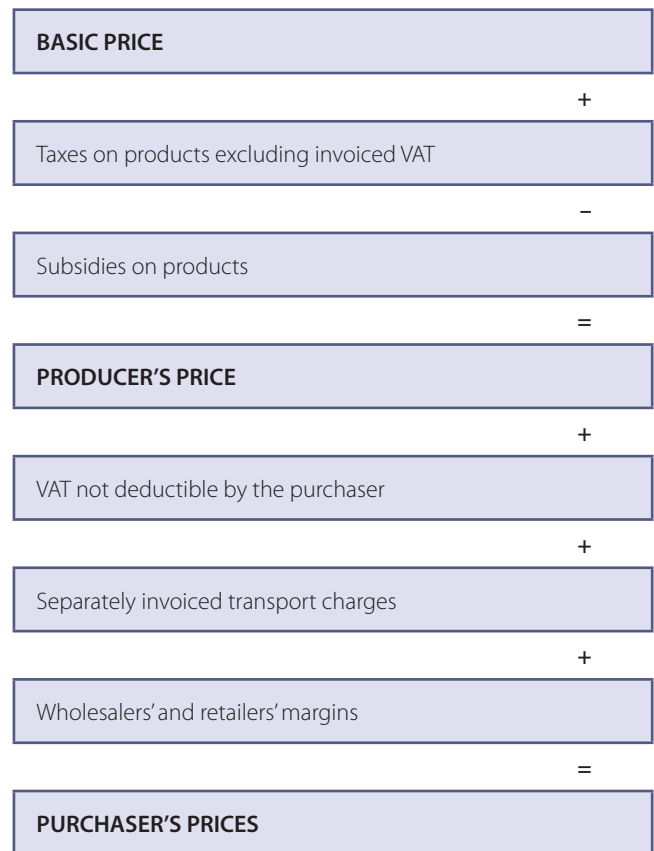
Source: *The 2008 SNA*, European Commission, IMF, OECD, UN, World Bank, 2009, Chapter VI: The production account, point 6.64.

A purchaser has two options to buy:

- Directly from the producer. In this case, the purchaser's price may exceed the producer's price by (i) the value of any non-deductible VAT, payable by the purchaser and (ii) the value of any transport charges on a good paid separately by the purchaser.
- From a wholesaler or retailer. In this case, it is necessary to consider also the trade margins that the retailer will apply.

Figure IV.2 presents the relationships between prices.

Figure IV.2 Relationships between prices



Source: *The 2008 SNA*, European Commission, IMF, OECD, UN, World Bank, 2009

Example

Imagine the following situation:

An enterprise produces cigarettes. The value of the total production costs and the enterprise profit for a packet of cigarettes is 200 units. The enterprise must pay an excise duty, which is 20% applied to the value of each packet. The packet of cigarettes is sold to a retail trader. The transport cost is valued at 10 units and the trade margin is 20 units. In the country, the value added tax (VAT) is 20%.

The final consumer of the packet of cigarettes pays 324 units.

Evaluation at **basic price** = 200 units.

Evaluation at **producer's price** = production at basic price + taxes on products = $200 + (20\% \times 200) = 200 + 40 = 240$ units.

Evaluation at **purchaser's price** = production at producer's price + transport cost + trade margin + VAT = $240 + 10 + 20 + [(240 + 10 + 20) \times 20\%] = 324$ units.

2. Accounts

The immense number of individual transactions and other flows and assets has to be aggregated in a manageable number of analytically useful groups, representing the accounts according to standard SNA classifications.

The sequence of accounts describes how income is generated, distributed, redistributed and used for consumption or the acquisition of assets and when assets are disposed of, or a liability is incurred, in order to acquire other assets or undertake more consumption than current income permits. The accounts of the economy presented in the SNA are:

- a) Current accounts consist of a production account and accounts showing the primary distribution of income, the secondary distribution of income and the use of income. In addition to these accounts the entries from the rest of the world account (imports and exports of goods and services) show the value of goods and services that reach the national economy from the rest of the world and those that are produced in the national economy but are provided to the rest of the world. In detail, the accounts are: (i) a production account; (ii) a generation of income account; (iii) an allocation of primary income account (including an entrepreneurial income account and an allocation of other primary income account); (iv) a secondary distribution of income account; (v) a use of income accounts (including a use of disposable income account and a use of adjusted disposable income account).
- b) Accumulation accounts are represented by four accounts dealing with changes in the values of assets held by institutional units, recording transactions in non-financial and financial assets and the other changes in the volume of assets: (i) capital account; (ii) financial account; (iii) other changes in assets account; (iv) revaluation account. The effects of price changes are recorded in the revaluation account. These four accounts enable the change in the net worth of an institutional unit or sector between the beginning and end of the accounting period to be broken down into its constituent elements by recording all changes in the prices and volumes of assets, whether resulting from transactions or not. The impact of all four accounts is brought together in balance sheets.
- c) Balance sheets present, with respect to a particular point in time, the values of assets owned and the liabilities owed by an institutional unit or group of units. A balance sheet may be drawn up for institutional units, institutional sectors and the total economy. It includes: (i) an opening balance sheet; (ii) total changes in assets; (iii) a closing balance sheet.
- d) Goods and services account (see below).
- e) The accounts for the rest of the world. The entries in the integrated accounts for the rest of the world correspond

to the entries in the balance of payments, as set out in BPM sixth edition.

An alternative view of the economy focuses less on income and more on the processes of production and consumption and is presented in a goods and services account.

Definition

The goods and services account shows the balance between the total goods and services supplied as resources to the economy as output and imports (including the value of taxes less subsidies on products not already included in the valuation of output) and the use of the same goods and services as intermediate consumption, final consumption, capital formation and exports.

Source: The 2008 SNA, European Commission, IMF, OECD, UN, World Bank, 2009, Chapter XVI: Summarizing and integrating the accounts, point 16.27.

The goods and services account is the basic identity in the SNA. It captures the idea that all output plus imports must be accounted for in one of the two basic activities of the SNA (consumption of goods and services or accumulation of goods and services). The whole sequence of accounts is built around the goods and services account by adding transactions relating to the generation, distribution and redistribution of income and saving.

The total amount of goods and services supplied to the economy must be equal to the total use made of those goods and services. The identity is the following:

$$\text{Output} + \text{imports} + \text{taxes less subsidies on products} \\ = \text{Intermediate consumption} + \text{final consumption} + \text{export} + \text{capital formation}$$

Based on this equation, it reflects the fact that goods and services produced in the current period are used:

- To generate more goods and services in the current period (intermediate consumption);
- To generate more goods and services in future periods (capital formation);
- To satisfy human needs immediately (final consumption).

Due to the fact that no economy is entirely closed, it is necessary to add those goods and services supplied from outside the economy (imports) and those goods and services used by other economies (exports).

3. Main aggregates

Aggregates in national accounts are composite values that measure one aspect of the activity of the entire economy.

They are summary indicators and key magnitudes for the purposes of macroeconomic analysis and comparisons over space and time. For user needs, the aggregates of the SNA provide a simplified but complete and detailed picture of an economy.

Some aggregates can be obtained directly as totals of particular transactions in the SNA, such as total production, final consumption, gross fixed capital formation, etc. Others result from aggregating balancing items of institutional sectors accounts: value added, balance of primary incomes, disposable income and savings, etc.

Definition

A balancing item is an accounting construct obtained by subtracting the total value of the entries on one side of an account (resources or changes in liabilities) from the total value of the entries on the other side (uses or changes in assets). It cannot be measured independently of the entries in the accounts; as a derived entry, it reflects the application of the general account in rules to the specific entries on the two sides of the account.

Source: The 2008 SNA, European Commission, IMF, OECD, UN, World Bank, 2009, Chapter III: Stocks, flows and accounting rules, point 3.9.

Balancing items reflect the application of general accounting rules to specific entries on both sides of an account. They do not relate to any specific set of transactions, or any set of assets, and so they cannot be expressed in terms of their own price or quantity units. Balancing items are often used as key macroeconomic indicators to assess economic performance. Balancing items in sector accounts are presented in Table IV.3.

Table IV.3 List of balancing and net worth items

Account	Balancing items	
	Cod	Name
Production account	B1	Value Added/ Domestic Product
	B11	External balance of goods and services
Generation of income account	B2	Operating Surplus
	B3	Mixed Income
Allocation of primary income account	B5	Balance of primary incomes/ National Income
Entrepreneurial income account	B4	Entrepreneurial income
Allocation of other primary income account	B5	Balance of primary incomes/ National Income
Secondary distribution of income account	B6	Disposable Income
Redistribution of income in kind account	B7	Adjusted disposable Income
Use of disposable income account	B8	Saving
	B12	Current external balance
Capital account	B9	Net lending (+) / net borrowing (-)
	B101	Change in net worth due to saving and capital transfers
Financial account	B9	Net lending (+) / net borrowing (-)
Other change in the volume of assets account	B102	Changes in net worth due to other changes in volume of assets
Revaluation account	B103	Changes in net worth due to nominal holding gains/losses
Balance sheets	B10	Changes in net worth, total Net worth
	B90	Net worth

Source: The 2008 SNA, European Commission, IMF, OECD, UN, World Bank, 2009

Based on balancing items, the main aggregates of the 2008 SNA used as key indicators for assessing economic performance are:

- Gross Domestic Product (GDP);
- Gross National Income (GNI) and Net National Income (NNI);
- Gross National Disposable Income (GNDI) and Net National Disposable Income (NNDI).

The concept 'domestic product' is basically a production con-

cept: it measures the total value created in the production of goods and services. On the other hand, national income and national disposable income are income concepts designed to measure different aspects of the total incomes receivable in the economy.

The most well-known and used aggregate is GDP. The objective of the first phase of implementation of national accounts is to estimate it by production and expenditure.

Table IV.4 describes three ways of calculating the Gross Domestic Product using different approaches:

Table IV.4: Main aggregates in SNA

Production Approach (1)	Expenditure Approach (2)	Income Approach (3)
+ Sum of values added at basic prices of all producers + Taxes on products - Subsidies on products	+ Final consumption expenditure + Gross fixed capital formation + Changes in inventories + Exports of goods & services - Imports of goods & services	+ Compensation of employees + Taxes on production and imports - Subsidies + Operating surplus / mixed income
= Gross domestic product (GDP) at market prices (I)		
– Consumption of fixed capital = Net domestic product		
(I)		
+ Primary incomes receivable from the rest of the world – Primary incomes payable to the rest of the world		
= Gross national income (GNI) at market prices (II)		Can also be calculated as the sum of the balance of primary incomes of all institutional sectors
– Consumption of fixed capital = Net national income at market prices		
(II)		
+ Current transfers receivable from the rest of the world – Current transfers payable to the rest of the world		
= Gross national disposable income at market prices (III)		Can also be calculated as the sum of the disposable incomes of all institu- tional sectors
– Consumption of fixed capital = Net national disposable income at market prices		

Source: *System of National Accounts 1993, Training manual, SADC, 1999*

(1) The production approach

GDP using the production approach is obtained in the framework of the production account. Producers engaged in production can be either institutional units classified by institutional units or establishments classified by industry. The latter is the most common in practice.

The compilation formula is:

GDP at market prices = gross value added (GVA) at basic prices
+ taxes on products
– subsidies on products

Value added represents a measure of the additional value created in the process of production and it is equal to:

Gross value added = production – intermediate consumption

To find out more...

For additional information concerning the content and evaluation of production and intermediate consumption:

- *The 2008 SNA*, European Commission, IMF, OECD, UN, World Bank, 2009, Chapter VI: The production account;
- *National Accounts: A practical introduction*, Studies in Methods, Series F, No.85, UN 2003, Chapter III: Production account and goods and services account.

(2) The expenditure approach

GDP using the expenditure approach is estimated in the framework of the goods and services account. The extended compilation formula is:

GDP at market prices = Final consumption expenditure (of Households, of NPISHs, of Government)
 + Gross capital formation (Gross fixed capital formation and Change in inventories)
 + Exports of goods and services
 - Imports of goods and services

(3) The income approach

GDP estimated using the income approach is derived from the generation of income account for producers classified by industry or by institutional sector. The produced value added components are entered into the formula (see Table IV.4). For this reason, this procedure is sometimes used as an alternative to the production approach for calculating values added.

Table IV.4 shows that **net aggregates** can be obtained by deducting consumption of fixed capital from gross aggregates. Consumption of fixed capital is not a value created in the production process; it is a production cost. Therefore, values added, domestic product and income measures should be preferably measured net. However, it is very difficult to measure consumption of fixed capital properly and many countries do not measure it at all. Gross aggregates are more often available and more widely used.

4. Volume measures

In the system of national accounts, all flows and stocks are expressed in value, which enables aggregation of a variety of goods and services produced in the economy. However, a major concern in economic analyses is to measure economic growth in volume terms between different periods. Volume measures enable comparisons over time to be made: 'How much higher was production this year compared to last year?'

Volume measures enable analysis of real growth over time to be made: 'How much higher was GDP this year in comparison to previous years?'. In order to do this the value changes for economic aggregates need to be split between those changes arising solely from changes in price and those from volume changes.

The system of national accounts provides a framework for measuring integrated price and volume. The main objective of price and volume measures in the SNA is to cover: transactions in goods and services, taxes and subsidies on products, trade margins, consumption of fixed capital, compen-

sation of employees and stock of inventories and produced fixed assets.

Flows or stocks in volume terms take into account the changes in the price of each item covered. It should be stressed that many flows or stocks presented in the SNA do not have price and quantity dimensions. This latter case relates to a number of transactions relating to distribution and financial intermediation as well as to balancing items such as value added (value added does not represent any observable flow of goods and services which can be factored into a price and a quantity component directly).

The major advantage of compiling price and volume measures within an accounting framework, such as that provided by the supply and uses tables, is that a check is provided on the numerical consistency and reliability of the set of measures as a whole. This is particularly important when every flow of goods and services in the economy has to be covered, including non-market goods and services whose valuation is even more difficult in volume terms than at current prices.

To find out more...

- *The 2008 SNA*, European Commission, IMF, OECD, UN, World Bank, 2009, Chapter XV: Price and volume measure.
- *Handbook on price and volume measures in national accounts*, Eurostat, 2001.

5. Recommended reading

- *National Accounts: A practical introduction*, Studies in Methods, Series F, No.85, UN 2003; chapter I: Overview; Chapter III: Production account and goods and services account; Chapter V: Enterprises, establishments and industries; Chapter XV: Price and volume measurement;
- *The 2008 SNA*, European Commission, IMF, OECD, UN, World Bank, 2009; Chapter II: Overview; Chapter III: Stocks, flows and accounting rules; Chapter IV: Institutional units and sectors; Chapter V: Enterprises, establishments and industries;
- *Understanding National Accounts*, Lequiller F., Blades D., OECD 2006; Chapter IV: Production: what it Includes and Excludes; Chapter V: Defining Final Uses of GDP;
- *Guide méthodologique pour l'élaboration des comptes nationaux dans les états membre d'Afristat*, Afristat, Serie Méthodes No.4, 2001; Chapter I: Introduction au system de comptabilité nationale;
- *System of National Accounts 1993*, Training manual, SADC, 1999; Chapter II: Categories in the 1993 SNA; Chapter IV: Main aggregates;
- *Balance of Payments and Investment Position*, Sixth Edition, (BPM6), IMF, 2009;
- *Handbook on price and volume measures in national accounts*, Eurostat, 2001.

Statistical Infrastructure for National Accounts



The chapter in brief

The aim of this chapter is to highlight the fact that the status and quality of the statistical infrastructure make a decisive contribution to the compilation and quality of national accounts. The four main pillars of statistical infrastructure are identified and described in separate sections: the statistical business register, classifications, statistical data sources and administrative data sources. While a good-quality statistical business register should offer a realistic view of a country's businesses, the classifications implemented by countries should envisage comparability in space and time. Statistical data sources may directly provide the information required for compiling national accounts, while administrative data sources may be subject to special treatment to meet SNA requirements.

1. The basis: business register and statistical classifications

1.1. Business Register

The Statistical Business Register (SBR) plays an essential role in the construction and maintenance of an integrated economic information system, serving multiple purposes. One of these objectives is to provide quality data needed for the compilation of national accounts indicators.

Definition

Business registers for statistical purposes are the main source for business demography, as they keep track of business creations and closures as well as the structural changes in the economy by concentration or de-concentration, brought about by operations such as mergers, takeovers, break-ups, split-offs and restructuring.

Source: Regulation (EC) No 177/2008 of the European Parliament and the Council of 20 February 2008 establishing a common framework for business registers for statistical purposes and repealing Council regulation (EEC) no. 2186/93

In other words, it is a list of businesses which includes those engaged in the production of goods and services.

For statistical purposes the business register is a tool used for preparing and coordinating surveys as well as an information source used in the statistical analysis of the business population and its demography. It is also used for administrative data as well as for identifying and constructing statistical units.

The register comprises:

- All enterprises carrying on economic activities contributing to the GDP and their local units;
- The legal units of which those enterprises consist;
- Truncated enterprise groups and multinational enterprise groups;

- All resident enterprise groups.

1.1.1 Objective

The SBR exists primarily for the purpose of supplying a framework for all economic surveys. Therefore it is designed to provide a means of coordinating the coverage of business surveys and of achieving consistency in classifying statistical reporting units. It also serves as a data source for compiling demographic information about businesses.

1.1.2 Variables

The typical units in an SBR are legal units and local units, whereas for statistical purposes, these must be transformed into units such as enterprises and establishments.

Legal units include:

- Legal persons whose existence is recognized by law irrespective of the individuals or institutions which may own them or are members of them;
- Natural persons engaged in an economic activity in their own right.

A legal unit always forms, either by itself or sometimes in combination with other legal units, the legal basis for a statistical unit known as the 'enterprise'.

A **local unit** is an enterprise or part thereof (e. g. a workshop, factory, warehouse, office, mine or depot) situated in a geographically identified place. At or from this place, an economic activity is carried out for which - save for certain exceptions - one or more persons work (even if only part-time) for one and the same enterprise.

Chapter IV: *Basic concepts*, section 1: Basic concepts outlines the relations between enterprises, local unit and establishment.

The units listed in a register should be described according to type of statistical unit (legal unit, local unit and enterprise) using three categories of variables:

- **Identification variables** (identity number, name of enterprise, name of the owner, address, legal status);
- **Stratification variables** (economic activity, number of employees, sales turnover, geographical location);
- **Demographic variables** (births, date of changes in economic activity, deaths).

It is important to ensure the utmost accuracy of data, particularly those used as stratification variables in the sampling process (for example, variables relating to size and activity classification), together with identification data thus enabling contact with firms. The main variables included in an SBR are presented in Boxes V.1, V.2 and V.3.

The use of standardized statistical units in an SBR guarantees time-consistency in surveys, avoids duplications and omissions in data collection and improves the final quality of results by allowing greater coordination between surveys. The existence of a unique identification number, usually a legal code attributed by the tax administration, can greatly enhance the capacity for coordination between the various sources, including administrative ones.

To find out more...

Eurostat-OECD Manual on Business Demography Statistics, OECD, Eurostat, 2007, available from: <http://www.oecd.org/dataoecd/8/8/39974460.pdf>

Box V.1: Main variables collected for a Legal Unit

Identification Characteristics	1.1.		Identity number
	1.2a.		Name
	1.2b.		Address (including postcode) at the most detailed level
	1.2c.	Optional	Telephone and fax numbers, e-mail address, and information to permit electronic collection of data
	1.3.		Value Added Tax (VAT) registration number or, failing that, other administrative identity number
Demographic Characteristics	1.4.		Date of incorporation for legal persons or date of official recognition as an economic operator for natural persons
	1.5.		Date on which the legal unit ceased to be part of an enterprise (as identified in 3.3)
Economic/ Stratification Characteristics	1.6.		Legal form
	1.7.	Optional	Reference to balance sheet data (for units required for publication of accounts), and Reference to the balance of payments register or foreign direct investment register, and Reference to the farm register
Link with Enterprise Group	1.8.		Identity number of the all-resident/truncated enterprise group, to which the unit belongs
	1.9.		Date of association to the all-resident/truncated group
	1.10.		Date of separation from the all-resident/truncated group
	1.11a.		Identity number(s) of resident legal unit(s), which are controlled by the legal unit
	1.11b.		Identity number of the resident legal unit, which controls the legal unit
	1.12a.		Country(ies) of registration, and identity number(s) or name(s) and address(es) of the non-resident legal unit(s), which are controlled by the legal unit
	1.12b.	Conditional	VAT number(s) of non-resident legal which are controlled by the legal unit
	1.13a.		Country of registration, and identity number or name and address of the non-resident legal unit, which controls the legal unit
	1.13b.	Conditional	VAT number of the non-resident legal unit, which controls the legal unit
	1.14a.	Conditional	(a) Identity number(s), and (b) shares (%) of resident legal unit(s) owned by the legal unit
	1.14b.	Conditional	(a) Identity number(s), and (b) shares (%) of resident legal unit(s), which own(s) the legal unit
	1.15.	Conditional	(a) Country(ies) of registration, and (b) identity number(s) or, name(s), address(es), and VAT number(s), and (c) shares (%) of non-resident legal unit(s) owned by the legal unit
1.16.	Conditional	(a) Country(ies) of registration, and (b) identity number(s) or, name(s), address(es), and VAT number(s), and (c) shares (%) of non-resident legal unit(s), which own(s) the legal unit	

Source: Regulation (EC) No 177/2008 of 20 February 2008 on establishing a common framework for business registers for statistical purposes and repealing Council Regulation (EEC) No 2186/93

Box V.2: Main variables collected for a Local Unit

Identification Characteristics	2.1.		Identity number
	2.2a.		Name
	2.2b.		Address (including postcode) at the most detailed level
	2.2c.	Optional	Telephone and fax numbers, e-mail address, and information to permit electronic collection of data
	2.3.		Identity number of the enterprise (3.1), to which the local unit belongs
Demographic Characteristics	2.4.		Date of commencement of activities
	2.5.		Date of final cessation of activities
Economic/ Stratification Characteristics	2.6.		Principal activity code at 4-digit level
	2.7.	Conditional	Secondary activities, if any, at 4-digit level; this point concerns only local units which are the subject of surveys
	2.8.	Optional	Activity carried out in the local unit constituting an ancillary activity of the enterprise to which it belongs (Yes/No)
	2.9.		Number of persons employed
	2.10a.		Number of employees
	2.10b.	Optional	Number of employees in full-time equivalents
2.11.		Geographical location code	
Links with Other Registers	2.12.	Conditional	Reference to associated registers, in which the local unit appears and which contain information which can be used for statistical purposes (if such associated registers exist)

Source: Regulation (EC) No 177/2008 of 20 February 2008 on establishing a common framework for business registers for statistical purposes and repealing Council Regulation (EEC) No 2186/93

Box V.3: Main variables collected for an Enterprise

Identification Characteristics	3.1.		Identity number
	3.2a.		Name
	3.2b.	Optional	Postal, e-mail and website addresses
	3.3.		Identity number(s) of the legal unit(s) of which the enterprise consist(s)
Demographic Characteristics	3.4.		Date of commencement of activities
	3.5.		Date of final cessation of activities
Economic/ Stratification Characteristics	3.6.		Principal activity code at 4-digit level
	3.7.	Conditional	Secondary activities, if any, at 4-digit level; this point concerns only enterprises which are the subject of surveys
	3.8.		Number of persons employed
	3.9a.		Number of employees
	3.9b.	Optional	Number of employees in full-time equivalents
	3.10a.		Turnover save as provided in 3.10b
	3.10b.	Optional	Turnover for agriculture, hunting and forestry, fishing, and public administration and defense, compulsory social security, private households with employed persons and extra-territorial organizations
3.11.		Institutional sector and sub-sector according European System of Accounts	
Links with Other Registers	3.12.		Identity number of the all-resident/truncated enterprise group, to which the enterprise belongs

Source: Regulation (EC) No 177/2008 of 20 February 2008 on establishing a common framework for business registers for statistical purposes and repealing Council Regulation (EEC) No 2186/93

1.1.3 Implementing and developing an SBR

The starting point for the construction of an SBR is invariably the use of administrative records showing the enterprises created and maintained for supporting administrative regulations. In order to answer statistical needs, information from administrative registers is adapted and included in an SBR.

The main issue in managing an SBR is its maintenance and update, given the pace of change in the business world. Registers must be updated at least once a year.

The most effective method of updating an SBR combines using information from administrative sources⁽²⁾, business surveys and register maintenance surveys.

- a) *Administrative sources* have the advantage of covering the entire enterprise universe. It is essential for statistical and administrative bodies to employ a standardized activity classification system. Failure to do so may seriously compromise the final quality of the results of surveys based on a register. The use of conversion tables to adapt the data to the classification employed by the statistical body is not recommended, because this process results in major quality losses, since it is common to find situations where the transfer is not direct or one-to-one. To avoid this problem, statistical offices should attempt to persuade the bodies that produce the main administrative records to use a single activity classification table.
- b) *Surveys* offer more complete information, albeit for a more restricted population.
- c) *Register Maintenance Surveys* are specifically undertaken to update an SBR. Some statistical agencies undertake the survey in cooperation with the primary registration authority. For small enterprises, including informal sector operators, Register Maintenance Surveys are crucial.

Box V.4: An example of Business Register implementation

H. Berby and Y. Bergström (1997), Development of a Demonstration Data Base for Business Register Management. An Example of a Statistical Business Register According to the Regulation and Recommendations of the European Union, Statistics Norway.

Source: http://www.ssb.no/histstat/doc/doc_199709.pdf

(2) Authorities responsible for the primary registration of private sector businesses, tax offices, social security offices, government departments for information about public sector establishments (schools, hospitals, public utilities etc.), organizations of professionals (physicians, lawyers, etc.) and the ministry of agriculture for agricultural establishments.

Box V.5: Implementation of the Brazilian statistical business register

The Central Business Register (CEMPRE) is a comprehensive database maintained by the Brazilian Institute of Geography and Statistics or IBGE, which contains data about the universe of units enrolled in the tax office, companies and their local units in the Brazilian economy.

The Business Register has adopted the same definition of legal units as that used by the administrative records, that is, enterprises are the legal units registered in the Internal Revenue Service and each of their different addresses is treated as an establishment. This means that the smallest unit in the statistical register is a mix of theoretical definition of local unit and establishment: one location, one or more activities, one legal identification (usually one for each local unit, but in a few cases more than one legal identification for the same location may be found).

CEMPRE checks the existence of enterprises, their different local units (addresses), identifying them by name (legal situation), location, unique legal identification number, activity code, size (based on the variable number of employees, salaries paid, income) and other elements needed for administering the register, these constitute the reference base for the sampling design of business surveys.

All major administrative registers, as well as CEMPRE, use a single identification number for legal units. This 14-digit key-number enables perfect linkage between administrative and statistical business registers, and also links enterprises to their local units. The first 8 digits are assigned to an enterprise, the following 4 digits are a serial number for identifying its local units, and the 2 last digits are check codes. The existence of a single identification code and the adoption of the same basic unit of investigation by administrative registers and the statistical institute facilitate update procedures and prevent duplicate entries for an enterprise in the register.

The maintenance and update of the Business Register is based on previous sample surveys and complemented by data from the administrative record with the widest coverage available.

Source: Instituto Brasileiro de Geografia e Estatística (IBGE) – Estadísticas del Censo Central de Empresas (CEMBRE), IBGE. <http://www.ibge.gov.br/>

1.1.4 Questions for practitioners

An important issue relating to the construction of statistics and the national accounts system of a country is the existence and the quality of its business register.

The main issues concerning business registers relevant for statistics and national accounts are:

- Does an SBR exist in the statistical office or does it need to be constructed? What other administrative records and registers exist in the country?
- If an SBR exists, how good is the quality of its information? Is it based on the most suitable administrative

sources? Is it updated regularly? In countries where administrative records are insufficient or unavailable for frequently feeding and updating their business registers, an economic census becomes a crucial tool for providing information about active enterprises and establishments required for compiling national accounts.

- To what extent does the quality of an SBR affect the quality of statistical surveys used for compiling national accounts?
- Is the classification of industries used in an SBR in line with SNA requirements?
- Is the SBR used as a sample for statistical surveys?

1.2 Classifications

Classifications are a key element in the compilation of statistical indicators. The SNA uses several classifications; some of them are specific to the compiling of national accounts, such as classifying units into institutional sectors, goods and services, or transactions. Others are common to national accounts and other statistical domains.

The premise used for compiling national accounts is that data sources should be adapted and collected in accordance with international classifications.

The implementation of a classification and the main classifications used in SNA are presented below.

1.2.1. Importance of adopting international classifications

Definition

Classifications are an exhaustive and structured set of mutually exclusive and well-described categories, often presented in a hierarchy that is reflected by the numeric or alphabetical codes assigned to them, used to standardize concepts and compile data.

Source: *Standard Statistical Classifications: Basic Principles*, E. Hoffmann, M. Chamie, paper presented to the 30th UN Statistical Commission, 1999

Classifications organize units such as persons, enterprises, activities, etc. into groups according to a standard format defined according to the principles and criteria that have been used to construct them.

A *standard statistical classification (SSC)* is a set of discrete categories that may be assigned to a specific variable registered in a statistical survey or in an administrative file, and used in the production or presentation of statistics. National statistical authorities are responsible for the implementation, development, use and updating and/or revision of the national standard statistical classifications (NSSCs).

International standard statistical classifications (ISSCs) are developed and adopted by international institutions to ensure correct implementation of international agreements and

to standardize national and international communication, promoting comparability of international statistics. ISSCs are products of agreements between national authorities responsible for statistics in the respective areas, and may serve as models for developing corresponding national, multinational and regional statistical instruments.

One of the advantages of ISSCs is that they can be adopted as national classifications by countries that do not have the experience or resources to develop them; in addition they can be used as a guide for adapting national classifications to international standards.

1.2.2 Implementing a classification

Four types of methodological issues must be considered when adapting ISSCs for national use: (i) issues relating to the identification of user requirements; (ii) issues relating to the conceptual basis for the SSCs and their structure; (iii) issues relating to the collection of the information required for developing the classification and (iv) maintenance and update of classifications.

- i. User requirements:* It should be determined who the users are, how they will use the classification and the statistics produced with its help, to accommodate the adaptation of ISSCs to national needs.
- ii. Conceptual tasks:* Primary statistical units⁽³⁾ should be identified, as well as the possible ISSC categories to be assigned to them. How statistical units are linked to the classification's primary unit needs to be determined. The structure of the classification needs to be defined in order to arrange content in such way that the aggregations of the most detailed categories in the set are based upon similar criteria and which will be meaningful for descriptive and analytic comparisons. Rules should be drawn up to identify when statistical units should be classified into the same most detailed classification category, and when they should be classified differently. Similarity criteria are required to define higher-level categories (aggregated groups of categories) in hierarchical classifications⁽⁴⁾.
- iii. Collecting and presenting information:* in order to develop a classification, information needs to be collected and explanatory notes prepared which explain the boundaries between each of the classification categories using definitional descriptions and/or listing what is included or excluded. It is also important to present correspondence tables which enable systematic comparisons between classifications to be made and which present a classification structure map, listing levels, codes, hierarchies, etc. Correspondence tables indicate how, where and to what extent, concepts and categories in one classification may

(3) The observable units that can be assigned to one unique category of the classification without reference to any other observable unit.

(4) A tree-like structure consists of different levels into which a response can be classified depending on its detail. The most detailed level is always the lowest level of the classification.

be found in other classifications, or in earlier versions of the same classification.

- iv. *Maintenance of a classification* includes the activities undertaken to ensure classification errors, or ones in the explanatory notes or associated coding tools are corrected. Updating is an important process for presenting all the news in the field, for modifying descriptive category definitions, as well as introducing new categories into the existing structure and new coding tools.

Box V.6: Cases of conceptual tasks for implementing a classification

Defining the primary variable(s) of a classification:

In the International Standard Classification of Occupations (ISCO), the primary variable is "occupation" which is defined as "the main tasks and duties of work performed". In ISIC, the primary variable is "activity" defined as the main productive economic activity of a unit (establishment, enterprise or household), as indicated by the principal production process of that economic activity.

Defining rules for linking different statistical units to the classification's primary unit:

In the case of classifying persons by 'industry', e.g. according to ISIC, a link has to be established between each person and a job, e.g. the 'main job' held during the reference period, which can then be linked to an establishment, as this is one of the main statistical units for ISIC.

Formulating rules for classifying units into the same detailed categories:

In ISCO, the rule is that when the main tasks and duties of a set of jobs are characterized by a high degree of similarity, then these jobs should be classified into the same detailed category. The main tasks and duties define an occupation, which is the designation for the most detailed element in the set of categories of this classification. For ISIC, the rule is that when the economic activity of two establishments is characterized by a common production process resulting in the same homogeneous set of products, then the two units should be classified into the same detailed category.

Formulating similarity criteria for defining higher level categories:

In ISCO, the main similarity criteria are the skill level and skill specializations needed to carry out the tasks and duties of the jobs, where skill level is the main criterion used to delineate the most aggregate categories, while skill specialization is used to delineate the more detailed categories within the aggregate categories.

Source: *Standard statistical classification- Basic Principles*, E. Hoffmann, M. Chamie, paper presented at the 30th UN Statistical Commission, 1999.

1.2.3. Main classifications

- **Standard Industrial Classification of All Economic Activities Revision 4 (ISIC, Rev.4)** is the international reference classification for productive activities. It groups activities according to homogeneous production technologies for a range of products.

The **scope** of ISIC is to provide a set of activity categories that can be utilized for the collection and reporting of statistics according to such activities. It provides a comprehensive framework within which economic data can be collected and reported in a format that is designed for purposes of economic analysis, decision-taking and policy-making. ISIC Rev.4

aims to present a set of activity categories in such a way that entities can be classified according to the economic activity they carry out. ISIC Rev.4 is a classification according to kind of economic activity.

To find out more...

International Standard Industrial Classification of All Economic Activities - Revision 4, Statistical papers, Series M No. 4/Rev.4, UN 2008, available from: http://unstats.un.org/unsd/publication/SeriesM/seriesm_4rev4e.pdf

Box V.7: Top Level of ISIC Rev.4

- A** - Agriculture, forestry and fishing
- B** - Mining and quarrying
- C** - Manufacturing
- D** - Electricity, gas, steam and air conditioning supply
- E** - Water supply; sewerage, waste management and remediation activities
- F** - Construction
- G** - Wholesale and retail trade; repair of motor vehicles and motorcycles
- H** - Transportation and storage
- I** - Accommodation and food service activities
- J** - Information and communication
- K** - Financial and insurance activities
- L** - Real estate activities
- M** - Professional, scientific and technical activities
- N** - Administrative and support service activities
- O** - Public administration and defense; compulsory social security
- P** - Education
- Q** - Human health and social work activities
- R** - Arts, entertainment and recreation
- S** - Other service activities
- T** - Activities of households as employers; undifferentiated goods- and services-producing activities of households for own use
- U** - Activities of extraterritorial organizations and bodies

The *main uses* of ISIC are:

- In the field of *national accounts*, the ISIC classification is used to develop the production account and the generation of income accounts by industry. In this sense, the following main aggregates are compiled by industry: output, intermediate consumption, value added, compensation of employees, gross operating surplus. The supply and uses tables are based on ISIC, providing the value of different products produced by and consumed in different industries.
- ISIC provides the basis for the construction of the survey framework, namely the Statistical Business Register. An SBR contains information on the enterprises detailed in different classifications: the one used for the main activity being ISIC.

More information about the Statistical Business Register (SBR) is presented in section 1.1: Business register.

- The observation and collection of selling prices for industrial products used to calculate the *industrial production price index (IPPI)* are carried out on a representative sample of economic operators for each ISIC activity class.
- ISIC is the basis for addressing the reports and surveys of enterprises related to their *activity performance*, thus obtaining indicators (intermediate inputs, compensation of employees, fixed assets, etc.) by industry. *Structural surveys* cover enterprises from almost all ISIC classes. The turnover/value and volume indices of turnover are obtained from ISIC. Specific industry surveys are based on samples from the business register, enterprises involved in the same activity formed by grouping ISIC classes.
- Many *social indicators* relate to ISIC classification, being compiled by industry indicators such as: number of employees, gross/net average salary, labour force cost indices, etc.

Box V.8: Examples of national classification adaptations to ISIC

General Industrial Classification of Economic Activities within the European Communities (NACE) has been developed using ISIC Rev.4, categories at all levels of NACE have been defined so as to be either identical or to form subsets of single ISIC categories.

The North American Industry Classification System (NAICS) was developed in the mid-1990s and has undergone some changes to increase comparability among the three custodians of this classification (Canada, Mexico and USA). However, definitions of individual categories have been designed in a way that statistical data collected according to NAICS can be aggregated into the two-digit divisions of ISIC, Rev.4, ensuring comparability of data.

The Australian and New Zealand Standard Industrial Classification (ANZSIC) was revised in 2006 and broadly aligned with ISIC at the detailed level.

More information concerning national classifications is available from United Nations Statistics Division, at <http://unstats.un.org/unsd/cr/ctryreg/default.asp?Lg=1>

- **Central Product Classification Version 2 (CPC Ver.2)** is a classification based on the physical characteristics of goods or on the nature of services rendered. It includes products that are an output of an economic activity, including transportable goods, non-transportable goods and services. CPC presents categories for all products that can be the object of domestic or international transactions or that can be stocked.

CPC Ver. 2, finalized in 2008, was imposed by the revision of the Harmonized System in 2007, by the fourth revision of ISIC and by the changes in the world economy.

To find out more...

Central Product Classification (CPC) – Version 2, available from <http://unstats.un.org/unsd/cr/registry/cpc-2.asp>

The **main purpose** of the CPC is to provide a framework for comparing international product statistics and to serve as a guide for developing or revising existing product classification schemes to make them compatible with international standards.

The **main uses** of CPC are:

- The SNA uses the CPC to *balance the supply and uses tables*. In this sense, all main component aggregates are balanced by product;
- The CPC is used as an instrument for assembling and tabulating all kinds of *statistics requiring product detail*;
- For the calculation of *industrial production indices*, quantitative data regarding achieved production of goods are registered using the CPC;
- The *industrial production price index* is based on selling prices for industrial products identified by CPC, for selected industries classified using ISIC.

Box V.9: Top Level of CPC Ver.2

- 1 - Agriculture, forestry and fishery products;
- 2 - Food products, beverages and tobacco; textiles, apparel and leather products;
- 3 - Other transportable goods, except metal products, machinery and equipment;
- 4 - Metal products, machinery and equipment;
- 5 - Constructions and construction services;
- 6 - Distributive trade services; accommodation, food and beverage serving services; transport services; and electricity, gas and water distribution services;
- 7 - Financial and related services; real estate services; and rental and leasing services;
- 8 - Business and production services;
- 9 - Community, social and personal services.

Box V.10: Example of national classification adaptations to CPC

The Classification of Products by Activity (CPA) is the European version of the CPC, and the purposes it serves are in line with those of the CPC. Whilst the CPC is merely a recommended classification, however, the CPA is legally binding in the European Community. Since the elements of the CPA are based on those of the CPC, links between the CPA and the *Harmonized Commodity Description and Coding System* (HS) exist in the same way as those between the CPC and the HS which have been referred to above. According to the desegregation level of the CPA, it can be broken into 21 sections identified by an alphabetical code, 88 divisions identified by a two-digit numerical code, 261 groups identified by a three-digit numerical code, 575 classes identified by a four-digit numerical code, 1342 categories identified by a five-digit numerical codes, and 3142 sub-categories identified by a six-digit numerical code.

Source: RAMON, Eurostat's Metadata Server, at http://ec.europa.eu/eurostat/ramon/index.cfm?TargetUrl=DSP_PUB_WELC

- **Standard International Trade Classification (SITC Rev.4)** classifies commodities into different categories according to the nature of the merchandise and the materials used in their production as well as according to their stage of production, in turn suitable for economic analysis. The origin of SITC is the *Harmonized Commodity Description and Coding System (HS07)*. SITC is the aggregated classification of transportable goods both for international trade statistics and for analytical purposes.

The **scope** of SITC is to cover all goods *classifiable in HS except for monetary gold, gold coin and current coin*. All basic headings in SITC Rev.4, (except for 911.0- Postal packages not classified according to kind and 931.0- Special transactions and commodities not classified according to kind) are defined in terms of HS07 subheadings.

To find out more...

Standard International Trade Classification - Revision 4, Statistical papers, Series M No. 34/Rev. 4. UN 2006, available from: http://unstats.un.org/unsd/publication/SeriesM/SeriesM_34rev4E.pdf

The SITC **is used**:

- In SNA, as a *classification of imports and exports*. This classification identifies details of commodities for a variety of purposes, including customs, statistical and analytical purposes, particularly for the presentation of external trade statistics with detailed commodity specifications.
- *To present and disseminate* the huge amount of data in respect of import and export of goods.

These three classifications (*ISIC*, *CPC* and *SITC*) are closely interrelated. *ISIC* represents the activity side of the system, *CPC* is the central instrument for classifying goods and services and *SITC* is, for analytical purposes, the aggregated classification of goods for international trade statistics. Both *CPC* and *SITC* use the headings and subheadings of the *HS* as building blocks for their categories. Subsequently, relationships with other classifications that may require a degree of comparability with *ISIC* have been added to these considerations. By rearranging the *CPC* categories according to their industrial origin and using the link between *CPC*, *SITC* and *HS*, a detailed correspondence table between *SITC*, *CPC* and *ISIC* has been established.

Box V.11: Classification hierarchy

	<i>ISIC</i> , Rev.4	<i>CPC</i> , Ver. 1.1	<i>SITC</i> Rev.4
Sections	21	10	10
Divisions	88	70	67
Groups	238	305	261
Classes	419	1 167	2 970
Sub-classes or basic headings	N/A	2 096	2 970

Source: Report of the Task Force on National Accounts, UN Economic and Social Council, March 2001 (E/CN.3/2001/7).

- **The Classification by Broad Economic Categories (BEC) Rev.3** was initially developed by *UNSD* for internal purposes in order to reclassify merchandise imports (reported in terms of *SITC*) into the product categories relevant to the *SNA*. Over time, many countries have started to use *BEC* for a variety of purposes including economic analysis and setting tariffs. In addition, it was designed to serve as a means of converting external trade data compiled using *SITC* into end-use categories that are meaningful within the framework of the *SNA*, namely categories approximating the three basic classes of goods in the *SNA* (capital goods, intermediate goods and consumption goods). Specifically, the subcategories of the *BEC* can be aggregated to approximate these three classes of goods. This aggregation enables external trade statistics to be considered jointly with other sets of general economic statistics, such as national accounts and industrial statistics, for national, regional or worldwide economic analysis. The *BEC* consists, at level 1, of 7 main categories identified by one-digit numerical codes, at level 2, of 14 categories identified by two-digit numerical codes, at level 3, of 8 sub-categories identified by three-digit numerical codes.

Box V.12: Top Level of BEC

- 1 - Food and beverages;
- 2 - Industrial supplies not elsewhere specified;
- 3 - Fuels and lubricants;
- 4 - Capital goods (except transport equipment), and parts and accessories thereof;
- 5 - Transport equipment and parts and accessories thereof;
- 6 - Consumer goods not elsewhere specified;
- 7 - Goods not elsewhere specified.

Source: <http://unstats.un.org/unsd/cr/registry/regcst.asp?Cl=10&Lg=1>

- Classifications of Expenditure According to Purpose

The *SNA* uses special classifications to analyse consumption, or more generally outlays, by different sectors depending on the purpose for which the expenditure is undertaken. Such classifications are referred to as functional classifications or as Classifications of Expenditure According to Purpose. They are: *Classification of Individual Consumption According to Purpose (COICOP)*, *Classification of the Functions of Government (COFOG)*, *Classification of the Purposes of Non-Profit Institutions, Serving Households (COPNI)*, *Classification of the Outlays of Producers, According to Purpose (COPP)*.

To find out more...

Classifications of Expenditure According to Purpose: Classification of the Functions of Government (COFOG) - Classification of Individual Consumption - According to Purpose (COICOP) - Classification of the Purposes of Non-Profit Institutions - Serving Households (COPNI) - Classification of the Outlays of Producers - According to Purpose (COPP), Statistical paper, SERIES M No. 84. UN 2000, available from: http://unstats.un.org/unsd/publication/SeriesM/SeriesM_84E.pdf

- **Classification of Individual Consumption According to Purpose (COICOP)** includes categories such as: food, health, education services, etc. *COICOP* has 14 main categories, the first 12 refer to individual consumption expenditure of households and the last two identify those parts of consumption expenditure by Non-Profit Institutions Serving Households (*NPISHs*) and general government that are treated as social transfers in kind.

Once the consumption expenditures of *NPISHs* and general government have been classified according to *COPNI* and *COFOG* (see following page), individual consumption expenditures in these two classifications can be transferred directly into Divisions 13 and 14 of *COICOP*. In *COICOP*, classes are divided into services, non-durables, semi-durables and durables.

Box V. 13: COICOP main categories

1. Food and non-alcoholic beverages;
2. Alcoholic beverages, tobacco and narcotics;
3. Clothing and footwear;
4. Housing, water, electricity, gas and other fuels;
5. Furnishings, household equipment and routine household maintenance;
6. Health;
7. Transport;
8. Communication;
9. Recreation and culture;
10. Education;
11. Restaurants and hotels;
12. Miscellaneous goods and services;
13. Individual consumption expenditure of NPISHs;
14. Individual consumption expenditure of general government.

Source: *Classifications of expenditure according to purpose*, Statistical papers, SERIES M No. 84, UN, 2000.

- The **Classification of the Functions of Government (COFOG)** is consistent with that proposed in the *Government Finance Statistics Manual 2001 (GFSM 2001)*⁽⁵⁾, e.g.: government expenditure. The units of classification are, in principle, individual transactions. This means that a COFOG code should be assigned to each purchase, wage payment, transfer, loan disbursement or other outlay according to the function the transaction serves.

A major use of COFOG is to identify consumption expenditures that benefit individual households and which are transferred to Division 14 of COICOP to derive the 2008 SNA aggregate of actual final consumption of households. COFOG is also used to distinguish between individual and collective services provided by general government. Expenditures on individual services are treated as social transfers in kind. They are deducted from total final government consumption expenditure to obtain actual final government consumption and added to the final consumption expenditures of households and NPISHs to obtain actual final consumption of households.

(5) IMF (1998), *Government Finance Statistics Manual 2001*, International Monetary Fund, Washington D.C., available from: <http://www.imf.org/external/pubs/ft/gfs/manual/pdf/all.pdf>

Box V.14: COFOG main categories

1. General public services;
2. Defense;
3. Public order and safety;
4. Economic affairs;
5. Environmental protection;
6. Housing and community amenities;
7. Health;
8. Recreation, culture and religion;
9. Education;
10. Social protection.

Source: *Classifications of expenditure according to purpose*, Statistical papers, SERIES M No. 84, UN, 2001.

- The **Classification of the Purposes of Non-Profit Institutions Serving Households (COPNI)** classifies individual outlays of NPISHs according to the purpose they serve. These outlays could be from health, education services, religious associations, etc. The same outlays as for COFOG can, in principle, be classified according to COPNI. The main emphasis should be on the classification of final consumption expenditure since this is to be transferred to COICOP Division 13 to obtain actual final consumption of households. NPISHs produce goods and services, but typically services, which are provided to individual households, so the consumption expenditures are treated as individual consumption.

Box V.15: COPNI main categories

1. Housing;
2. Health;
3. Recreation and culture;
4. Education;
5. Social protection;
6. Religion;
7. Political parties, labour and professional organizations.

Source: *Classifications of expenditure according to purpose*, SERIES M No. 84, UN, 2000.

- The **Classification of Outlays of Producers According to Purpose (COPP)** applies to all producers, whether market or non-market, although in practice, market transactions are the most interesting. COPP may provide information on 'outsourcing' business services, that is, on the extent to which producers buy catering, cleaning, transport, auditing and other services that were previously carried

out as ancillary activities within the enterprise. It has to be borne in mind that this classification is mainly used to classify production cost, capital formation and other production-related data that are identified by establishments. The *COPP* categories can be easily identified with *ISIC*, and *CPC* categories.

Box V.16: *COPP* main categories

1. Outlays on infrastructure;
2. Outlays on research and development;
3. Outlays on environmental protection;
4. Outlays on marketing;
5. Outlays on human resource development;
6. Outlays on current production programmes, administration and management.

Source: <http://unstats.un.org/unsd/cr/registry/regcst.asp?Cl=7&Lg=1>

1.2.4 Questions for practitioners

Within a business register, classifications represent the essential elements for building the statistical system, including national accounts. As part of the central framework of the national accounts compilation strategy, the main classifications used in the statistical system are adopted and/or developed according to the answers to the following questions addressed in a systematic way:

- Are international classifications implemented in the statistical system and are they used for the collection, compilation and dissemination of statistical data sources?
- What are the classifications used in the administrative system? Are they in line with the statistical classifications and can they be used for national accounts purposes?
- Are there correspondence tables between the different classifications to ensure system consistency?

If these issues are respected then this will contribute significantly to ensuring compatibility and comparability of statistics and national accounts indicators.

2. Statistical data sources

Statistical indicators estimating is based on information collected from two main sources: statistical sources (censuses and surveys) and administrative registers. The following section describes the characteristics and the collection of data from censuses and surveys.

2.1 Censuses

Definition

A census is a survey conducted on the full set of observation objects belonging to a given population or universe.

Source: *Glossary of Statistical Terms*, OECD, 2005, <http://stats.oecd.org/glossary/detail.asp?ID=2620>

Data obtained through the census is used for estimating some specific national accounts indicators and as a basis for further developments. The three principal types of censuses are:

- a) Agricultural census: the observation unit is the agricultural holding, which is the techno-economic unit of agricultural production (i.e. crop-producing and livestock establishments). Agricultural censuses provide detailed statistical information, such as location, areas cultivated, uncultivated, under crop, types of crop obtained, irrigated/rain-fed, number and type of animals, animal production obtained, expenditures, number of persons engaged, etc.
- b) Economic census for non-agricultural units: the observation unit is the non-agricultural establishment with a fixed structure (size) and location characterized by a unique economic activity. Economics censuses produce specific information on individual establishments, such as location, name, address, type of economic activity, legal and ownership status, turnover, expenditure, number of employees, etc.
- c) Population census: the observation unit is the household and the person. Generally it is carried out together with the housing census. The population census provides an inventory of the nation's human resources in great geographical, demographic and socio-economic detail.

In respect of the housing census, the units of enumeration are buildings, living quarters, households and occupants. The main topics included in the housing census refer to the type of ownership of the housing, type of building, construction materials, access to water and electricity, location, number of rooms, etc.

The disadvantages of a census are:

- It is very costly to enumerate (collect) the data and to process it;

- Timeliness is not high because data is available for use only many months after it is collected;
- The census is carried out after a long period, normally every five or ten years.

To find out more...

- Conducting Agricultural Censuses and Surveys, Rome, Statistical Development Series No. 6 FAO 1996, available from: <http://www.fao.org/economic/ess/world-census-of-agriculture/conducting-of-agricultural-censuses-and-surveys/en/>;

- Handbook on design and implementation of business surveys, Willeboordse A., 1998, available from: <http://ec.europa.eu/eurostat/ramon/statmanuals/files/Handbook%20on%20surveys.pdf>;

- Principles and Recommendations for Population and Housing Censuses, Revision 2, Statistical papers, Series M No. 67/Rev.2, UN, 2008, available from: http://unstats.un.org/unsd/demographic/sources/census/docs/P&R_Rev2.pdf

2.2 Surveys

Definition

A **survey** is an investigation about the characteristics of a given population by means of collecting data from a sample of that population and estimating their characteristics through the systematic use of statistical methodology.

Source: *Glossary of Statistical Terms*, OECD, 2005, <http://stats.oecd.org/glossary/detail.asp?ID=2620>

Surveys elicit responses about specific phenomena from a few representative units scientifically selected from a population. Population data is obtained by expanding the sample data and by extrapolating the sample size to the population size.

Surveys provide more up-to-date statistics and are less costly than a census. They are normally carried out monthly, quarterly or annually. Timeliness requires prompt data processing, thus less information is gathered.

Statistical surveys may be classified into the following categories:

- **Agricultural surveys;**
- **Enterprise surveys;**
- **Household surveys;**
- **Mixed household-enterprise surveys:** The sampling units comprise a household that is asked whether any of its members own and operate an unincorporated enterprise, so it can provide coverage of small enterprises that are not included in list-based enterprise surveys, thus facilitating the measurement of the non-observed economy;

- **Price surveys:** used to obtain data on prices, which may involve collection from enterprises or households, or direct observation of prices in the market;
- **Indirect enterprise surveys:** are those in which the enterprises managing city markets are asked for data about the holders of their market stalls. This sort of survey provides only limited data about the observation units and often only in aggregate form.

The SNA requires the use of extensive information from different data sources. The information obtained is used directly, or is translated into national accounts concepts. Some information can be used indirectly, to check the plausibility of estimates and to verify some assumptions made in the process of compiling national accounts.

Box V.17: Main statistical data sources used in SNA

Survey	Periodicity	Data items used
Manufacture industry	Monthly, Quarterly	Turnover by industry, number of employees
Statistics of energy, gas and water	Quarterly, Annual	Production of electricity, turnover, prices of energy and gas, natural gas distribution, water distribution
Statistics on oil	Monthly, Quarterly	Oil production,
Retail sales	Monthly, Quarterly	Turnover, number of employees
Building and engineering construction	Monthly, Quarterly	Value of construction, number of employees
Construction for households	Annual	Number of finished households constructions, and in different stages of execution; surface, number of rooms, etc.
Services for population	Monthly, Quarterly	Turnover, number of employees
Transport	Monthly, Quarterly	Number of passengers, number of km. made by kind of transports
Tourism	Monthly, Quarterly	Activity of tourism agency, number of hotels, number of beds, visitors
Post and telecommunication	Monthly, Quarterly	Activity of the post, telecommunication, telephone
Employment, earnings	Monthly, Quarterly	Number of employees, wages and salaries
Labor force	Quarterly, Annual	Employment, number of hours worked, by industry
Households budget	Monthly, Quarterly, Annual	Employment, number of hours worked, by industry
Households budget	Monthly, Quarterly, Annual	Income and expenditure of households, by kind
Imports and exports of goods	Monthly, Quarterly, Annual	
Consumer price index	Monthly, Quarterly	
Producer price index	Monthly, Quarterly	
Construction price index	Monthly, Quarterly	
Unit value index	Monthly, Quarterly	
Agriculture production	Annual	
Structural Business Survey (cover industry, construction, transport, other services)	Annual	Income and expenditures of enterprises. The main items: turnover, changes in inventories, investment, expenditures for intermediate consumption, wages and salaries, number of employees

Source: *Measuring the Non-Observed Economy – A handbook*, OECD 2002

2.2.1 Agricultural Statistics

The main sources of data for agricultural activity include censuses of agriculture and livestock, crop estimation surveys, studies on farm management and cost of cultivation studies, agricultural household surveys and various returns collected by administrative agencies concerned with prices and production relating to agriculture.

Indirect data can also be obtained from a population census, some statistics relating to industrial production, balance of payments statistics, wholesale and retail prices, quantum and prices of imports and exports, government budget expenditure and reports available from specialized agencies or boards dealing with other agricultural activities (marketing of specific crops, fertilizer or pesticides, veterinary activity, agricultural activity finances etc.), cooperative (agricultural) societies, etc.

To find out more...

Guide méthodologique pour l'élaboration des comptes nationaux dans les états membres d'Afristat, Afristat Série Méthodes No.4, 2001.

2.2.2 Structural Business Statistics

Structural Business Statistics (SBS) describes the structure, coordination and performance of economic activities, down to the most detailed activity level (several hundred sectors). The SBS collects detailed information about an enterprise's economic activity and represents the most important data source for the compilation of national accounts indicators, using a breakdown by industry. At the same time, the SBS analyses business structure and evolution, production factors used, as well as other elements.

The SBS describes the economy by observing units engaged in an economic activity, generally the enterprise. An enterprise carries out one or more activities at one or more locations and may comprise one or more legal units. Enterprises active in more than one economic area are classified under the ISIC Rev. 4 heading corresponding to their principal activity, normally the one that generates the largest amount of value added.

Box V.18: SBS: main variables

- Demographic variables (e.g. date of the creation of the enterprise, temporary interruption, permanent closure, changes in the capital structure, etc.);
- Input-related variables: labour input (e.g. employment, personnel costs) and capital input (e.g. investment, research and development);
- Output-related variables (e.g. turnover, own account assets production, expenditures, taxes, changes in inventories, value of the direct export).

Source: Eurostat, http://epp.eurostat.ec.europa.eu/portal/page/portal/euro-pean_business/introduction

The SBS covers the 'business economy', which includes industry, construction and services. In many countries, financial services are kept separate because of their specific nature and the limited availability of most types of standard business statistics in this area, but there are also countries that conduct this survey for financial institutions. SBS does not cover agriculture, forestry and fishing, nor public administration and (largely) non-market services such as education and health.

A subset of the SBS variables is available with a breakdown according to size of enterprise (for instance small and medium-sized enterprises) and with a regional breakdown (as in the regional structural business statistics).

Box V.19: The SBS questionnaires used by the Trinidad and Tobago Statistical Office

Every year Trinidad and Tobago Statistical Office conducts an annual survey of business establishments encompassing every industry and is in charge of maintaining the Business Register. The survey is conducted in accordance with the Statistics Act, Chapter 19:02 of the Revised Laws of Trinidad & Tobago (1981) and its information is used to calculate Gross Domestic Product (GDP).

See the Business Surveys form:

<http://cso.gov.tt/files/cms/Form%20A%20-%20Survey%20of%20Establishments%20-%20General%20Long%20Form.pdf>

Implementation of the SBS in the statistical system is a strategic decision impacting on economic indicator compilation quality, and especially that of national accounts. There are many countries where, for various reasons (financial restrictions, lack of personnel, etc.) the SBS has not been yet implemented. As presented in Chapter III, national accountants should start compiling indicators based on available data sources and at the same time promote the implementation of the SBS in the statistical system.

2.2.3 Construction Statistics

The construction industry generally represents a significant share of the total economic activity of a country and changes in construction tend to amplify and lead changes in the economy as a whole. Construction statistics not only give information about capital formation by the sectors served by the industry but also on the organization, structure and productivity of the industry itself. Construction statistics are captured by business surveys or household surveys depending on the type of unit that carries out the construction activity.

Countries in Phase zero or even in the first stage of SNA implementation may not have developed construction statistics and direct information on the activity of this sector may be difficult to gather. Should this be the case, national accountants should investigate the possibility of using other available information and developing their own methods of estimation, following the phases presented in Chapter III.

In the absence of direct statistical information, one method that can be developed uses production estimates as the sum of its components: intermediate consumption and gross value added (GVA). Data on domestic production, import and export of raw materials used in the construction process is the basis for estimating intermediate consumption; information concerning the number of employees, the average wage of the sector and assumptions about the gross profit of the construction enterprises can be used to estimate GVA. The number of employees in the construction sector may also be provided by the Labour Force Survey (LFS) or in its absence, administrative information can be used.

To find out more...

International Recommendations for Construction Statistics, Statistical papers, Series M No. 47/Rev.1 United Nations, 1997, available from: <http://unstats.un.org/unsd/EconStatKB/Attachment218.aspx>

2.2.4 Price Statistics

Major price indices are clearly related to national accounts aggregates, as these aggregates represent the major flows of goods and services and levels of tangible and intangible stocks in the economy. A precise relationship emerges then between the well-known headline price indicators – the Producer Price Index (*PPI*), Consumer Price Index (*CPI*), Unit Value Index (*UVI*) – and the closely-watched national accounts aggregates. Major price indices should, in principle, cover those value aggregates in national accounts.

Consumer Price Index (*CPI*)

The consumer price index measures change over time in the general level of prices of goods and services that a reference population acquires, uses or pays for consumption.

A consumer price index is estimated as a series of summary measures of the period-to-period proportional change in the prices of a fixed set of consumer goods and services of constant quantity and characteristics, acquired, used or paid for by the reference population.

Each summary measure is constructed as a weighted average of a large number of elementary aggregate indices. Each of the elementary aggregate indices is estimated using a sample of prices for a defined set of goods and services obtained in or by residents of a specific region from a given set of outlets or other sources of consumption goods and services.

CPI is used in national accounts estimates to deflate expenditures at current prices or money incomes to derive measures of real consumption and real income. However, it should be noted that in practice price indices and expenditure series are often compiled independently of each other by different departments of a statistical agency or even by different agencies, so the coverage of a *CPI* may differ from that of total household consumption expenditure in the national account. Obviously this could lead to inconsistencies.

The price index used to deflate expenditures in national accounts should cover additional goods and services, not included in the *CPI*. However, this may not be easy to achieve in practice because the relevant price data may not be easily available, especially if the price collection procedures are geared to the *CPI*. Moreover, even if all the basic price data are available, the price index needed for deflation purposes is likely to be calculated using a different type or formula from the *CPI* itself.

Producer Price Index (*PPI*)

The producer price index is the measure of the change in price of goods and services either as they leave their place of production or as they enter the production process; but it is also a measure of change in price received by domestic producers for their outputs or of the change in price paid by domestic producers for their intermediate inputs.

In general terms, *PPI* can be described as an index designed to measure either the average change in price of goods and services as they leave the place of production or as they enter the production process. Thus, production price indices fall into two clear categories: input prices (i.e. purchase prices) and output prices (i.e. basic prices).

Although *PPI* is an important economic indicator, the main use of the *PPI* is as an output or sales data deflator when compiling production volumes and deflating capital expenditure and inventory data in national accounts. As a result, the concepts underlying the *PPI* are often conditioned by those underlying the national accounts. This can lead to various conflicts: for example, for contract escalation⁽⁶⁾, users would like weightings to be fixed for a long period. However, for deflating national accounts, current-weighted indices and fine

(6) Adjustment obligations that may be affected by changes in the prices.

aggregations are required, since in theory deflation is best done at the lowest level of disaggregation.

Unit Value Indices (UVI)

Unit value index is a composite cost index designed to express, in a single index, price (value) changes involving a range of internationally traded commodities. UVI provides an overall measure of price changes in imported /exported goods, although they not only reflect changes in price but also changes in quantity.

Unit value is calculated as the ratio of commodity value (\$) to net commodity mass (kg), derived from administrative customs documents: $UVI = \text{\$/Kg}$. *Export Price Index (XPI)* and *Import Price Index (MPI)* are based on unit value indices and price survey indices. These indices are used in national accounts as export and import value deflators to obtain the afore mentioned in quantity terms.

In many countries, where no XPI and MPI exist, UVI is used as a proxy for pure price or survey-based price index. Unit value indices were suggested by the United Nations⁽⁷⁾ for countries with a tight or medium budget, while well-endowed countries were advised to base their external trade price indices on data from establishment surveys. It should be noted that unit value indices may lead to error mainly due to changes in the mix of heterogeneous information collected in customs documents, but sometimes also due to the often poor quality of data on quantities.

Construction Price Index

The construction price index provides measures of price change in either inputs to, or outputs of construction activity. It is used to track changes/trends in the cost (or price) of construction. However, it does not provide information on the current market value of construction work, earning capacity or rental values.

The best well-known types of construction price index are the following:

- a) **Input price index:** measures price change in inputs to the construction process by separately monitoring the cost of each factor. This generally entails compiling a weighted index of wages and materials costs
- b) **Output price index:** measures price change in what is produced by entities engaged in a construction activity. It covers most of the items that are normally included in the price paid by purchasers or clients to constructors. These items generally include materials, labour, equipment hire, land preparation costs, bathroom/kitchen fittings, overheads, profits, and trade margins
- c) **Seller's price index:** measures price change in construction output paid by the purchaser or final owner of the construction activity output. The term 'seller's price' is

used to distinguish it from 'purchasers' price' as used in the SNA, since the latter excludes the land component of ownership transfer.

Box V.20: Examples of Construction Price Index

An example of an input index is the building costs index compiled in Finland which monitors price change in 95 cost items using price information obtained from construction enterprises and price lists.

The Austrian residential and non-residential building output price index records price change in residential buildings by monitoring changes in 82 representative construction operations involved in their construction.

Source: Main economic indicators – sources and methods: construction price indices, page 49 and page 84, Statistics Directorate, OECD (2001), Paris.

The Construction Price Index is also used to deflate national accounts construction output estimates, and gross fixed capital formation in residential construction to assess real changes in the output of these activities.

To find out more...

Producer Price Index Manual: Theory and Practice 2004, ILO, IMF, OECD, United Nations, and the World Bank, 2004, available from: <http://www.imf.org/external/np/sta/teggpi/index.htm>;

Export and Import Price Index Manual: Theory and Practice, ILO, IMF, OECD, Eurostat, UNECE, World Bank, 2009, available from: <http://www.imf.org/external/np/sta/xipim/pdf/xipim.pdf>;

Practical Guide to Producing Consumer Price Indices, UNECE, ILO, IMF, OECD, Eurostat, World Bank, Office for National Statistics, UK, United Nations, 2009;

Main economic indicators - Sources and methods: construction price indices, OECD, and Eurostat, 2001, available from: <http://www.oecd.org/dataoecd/49/4/2372435.pdf>

2.2.5 Household Statistics

Household statistics describe family and household composition and offer a cross-sectional picture of families and their patterns, yielding comprehensive data not only on their economic activities but also on demographic and social aspects, as well as on overall living conditions. Household statistics are gathered from household surveys, among which the Labour Force Surveys (LFS) and the Household Budget Survey (HBS) are the most common and useful ones.

The *Labour Force Survey (LFS)* is a survey that provides data on working-age persons living in private households. Its main emphasis is on employment, unemployment and inactivity.

The *LFS* divides the population of working age (15 years and above)⁽⁸⁾ into three mutually exclusive and exhaustive groups

(7) Strategies for Price and Quantity Measurement in External Trade, United Nations 1981.

(8) Recommended by the International Labour Organization (ILO).

- persons in employment, unemployed persons and inactive persons - and it provides descriptive and explanatory data on each of these categories. The information is detailed by industry, using the ISIC classification.

The LFS is usually conducted on a quarterly basis, but there are countries where this survey is carried out once a year.

The main use of LFS in national accounts is for estimating the Non Observed Economy (NOE), although it is also used to refine the measurement of wages and employment by sector.

To find out more...

Measuring the Non-Observed Economy – a Handbook, OECD 2002;

The European Union labour force survey - Methods and definitions – Eurostat, 2001, available from: <http://unstats.un.org/unsd/EconStatKB/Attachment269.aspx>

Box V.21: The Labour Force Survey in the Cayman Islands

The Cayman Islands Government Statistics Office has initiated a *Continuous Household Survey Programme (CHSP)* to collect socio-economic information to be used for programme planning and policy making. One of the key tools used for collecting such information is the *Labour Force Survey (LFS)*.

'2009 Labour Force Survey And Pilot Census - Interviewer Field Manual', available from: <http://www.eso.ky/file.php?path=docum354.pdf>

'Cayman Islands 2009 LFS Questionnaire' is available from: <http://www.eso.ky/file.php?path=docum353.pdf>

The **Household Budget Survey (HBS)** is intended to give a picture of living conditions of private households in a defined area and time, by providing the total consumption expenditure of private households and groups of private households, broken down by household characteristics such as income, size and composition, socio-economic characteristics, degree of urbanization, region and so on.

The basic unit in the HBS is the household. It is important to identify the reference person (often the head of the household) whose personal characteristics (the socio-economic group, occupation and employment status, income, sex, age, etc.) are used in the classification and analysis of information on the whole household.

HBS data is used to collect detailed information on household consumption expenditures (expenditures are recorded at the price actually paid, which includes indirect taxes - VAT and excise duties) borne by the purchaser. The data is used for measuring consumption expenditure elements in national accounts and updating the 'weightings' for the basket of goods used in Consumption Price Indexes.

Box V.22: Household Budget Survey (HBS) in the Cayman Islands

The HBS aims to gather data on household expenditures and income-based on a questionnaire and a diary of expenses. These are used to estimate the cost of living in the Cayman Islands and determine the poverty line and the number of households living below the poverty line.

'The 2007 Survey of Living Conditions and Household Budgets - Interviewer Manual', available from: <http://www.eso.ky/file.php?path=docum178.pdf>

The three questionnaires used can be found at:

- Household Questionnaire, available from: <http://www.eso.ky/file.php?path=docum174.pdf>
- Household Expenditure Diary Questionnaire, available from: <http://www.eso.ky/file.php?path=docum176.pdf>
- Individual Questionnaire, available from: <http://www.eso.ky/file.php?path=docum175.pdf>

To find out more...

More information concerning the household questionnaires from all the countries are presented by the International Survey Network, http://www.ihsn.org/home/index.php?q=country_questionnaires;

- *Household Budget Surveys in the EU: Methodology and Recommendations for Harmonization*, Eurostat, 2003, available from: http://secgen.comunidadandina.org/andestad/adm/upload/file/eurostat_hsb.pdf.

2.3 Concluding remarks

One important phase of the SNA implementation strategy is the identification and analysis of data sources needed for compiling national accounts.

For more information see Chapter III: *Building the SNA*, section 2: *The SNA implementation strategy*.

In this context, the statistical office, in charge of building the bases for meeting the national accounts minimal requirements, must implement and develop some essential statistical surveys. From the perspective of SNA implementation, the most important data requirements are those associated with compiling Gross Domestic Product (GDP) by production and expenditure approaches, at current and constant prices. Table V.1 presents an example of how the basic data requirements may be obtained through surveys that need to be carried out in the statistical system.

Table V.1. Minimum surveys required for implementing the SNA

Statistical survey	Used for the estimation of:
Surveys of enterprises on performance	Production, intermediate consumption by industry; investment and inventory
Survey of enterprises on trade turnover and sales of services	Production, intermediate consumption of specific industries; investment and inventory; household final consumption
Household budget survey (HBS)	Production, intermediate consumption for agriculture; inventory in agriculture; household final consumption
Consumer Price Index survey	Indicators in constant price

2.3.1 Questions for practitioners

Following the main SNA implementation guidelines, the process of compiling national accounts using statistical data sources should be established by addressing some specific issues, such as:

- What statistical surveys are conducted by the statistical office?
- Are the concepts, content and classifications used in these surveys in line with the requirements of the 2008 SNA?
- What is the best method of calculating national accounts indicators with the available statistical sources?
- What statistical survey needs to be implemented to in order to guarantee national accounts compilation requirements?

3 Administrative data sources

The statistical information required for compiling national accounts is based on administrative sources. The arguments favouring the use of these sources for statistical purposes when compiling national accounts highlight their importance. This section outlines the main elements for transferring administrative data sources into national accounts indicators.

3.1 Administrative Data

The term ‘administrative record’ encompasses any record resulting from fiscal, taxation or other authority requirements, created to facilitate the administration or operation of government programmes, or to supervise and oversee compliance with legal obligations by certain segments of society.

Definition

The administrative source is the register of units and data associated with an administrative regulation (or group of regulations), viewed as a source of statistical data.

Source: *Glossary of Statistical Terms*, OECD, 2007 <http://www.oecd.org/dataoecd/9/20/1963116.pdf>

Administrative processes are set up in response to legislation and regulations. Each regulation (or related group of regulations) results in registering institutional units – enterprises, persons, etc. – bound by that regulation and in a data set. The register and data are referred to collectively by the statistical office as an *administrative source*.

Administrative sources contain information that is not primarily collected for statistical purposes, but is used by statistical offices. Some examples of administrative sources include the following:

- Value Added Tax (VAT) data;
- Personal income tax data;
- Business (including corporate) taxation data;
- Social security data;
- Business registration and administration records;
- Business accounts of corporations;
- Records held by Central Banks;
- Records (other than VAT) held by Customs and Excise Authorities;
- Records of government (central and local);
- Records held by associations of employers, of employees and of businesses and professions;
- Records held by other private sector bodies, e.g. credit-rating agencies, non-profit units, etc.

The use for statistical purposes of administrative sources requires a careful evaluation of their conceptual base, classification and time reference.

The use of administrative data offers several *advantages*:

- They are ‘*cheaper*’ than other sources and often even free.
- They provide *complete*, or *almost complete*, coverage of the population to which the administrative process applies. Generally they have very high response rates, no survey errors, providing more accurate and detailed estimates of sub-populations.
- The *timeliness* of the statistical variables derived from administrative sources is improved. This is particular the case for annual ad-hoc surveys, which are based on administrative sources via the business register (however this does not apply to short-term indicators).
- They *reduce the response burden* on businesses.
- They *may increase business register quality*, which is why statistical surveys are carried out.

Although there are many good reasons for using administrative sources, there are also a number of *problems*:

- The most important problem for a statistical office, and implicitly for national accountants, is *obtaining access* to administrative sources. This may be because there is no legal framework in place between the statistical office and the authority gathering the data. Sometimes, it may respond to practical issues relating to data transfer (formats, details, responsibilities, ways of collection, etc.). This problem can be easily avoided if agreements and memoranda of understanding (clearly establishing frequency, data format and any relevant information for data transfer) are signed between the statistical office and the administrative authority.

For more detailed information concerning the access to administrative data sources see Chapter III: *Building the SNA*.

- The information used in administrative sources *does not directly correspond to the statistical indicator definitions*. The process of converting concepts used in administrative units (which may often be equivalent to legal units) to national accounts will be presented later.
- The *classification systems* used within administrative sources may be different to those used in the statistical world, or may be applied differently, depending on the purpose of the administrative source. When possible, it is preferable to rely on several administrative data sources.
- Another common problem relates to *timeliness*. Data may either not be available in time to meet statistical needs or refers to a period that does not coincide with that requi-

red for statistical purposes, e.g. a tax year may not coincide with the calendar year required for structural business statistics.

- Administrative sources are generally set up for the purpose of collecting taxes or monitoring government policies. For this reason, they are susceptible to **political change**. If a policy changes, administrative sources may be affected in terms of coverage, definitions, thresholds etc., or possibly even abolished completely.

Despite these problems, administrative data is an important data source. The use of these sources for compiling national accounts has an important effect on the quality of results.

3.2 Transition to national accounts

One important phase in the national accounts compilation process is the translation of information from the administrative source into national accounts concepts.

The compilation process of national accounts is presented in Chapter III: *Building the SNA, section 2: The 2008 SNA implementation strategy*.

The main administrative sources used for compiling national accounts are the financial statements of the stakeholders involved in different economic actions.

National accounts are virtually standardized worldwide, while business accounting (financial statements) is still in the process of international harmonization.

The International Accounting Standards Committee (IASC) was created in 1973 to establish basic accounting standards referred to as IAS (International Accounting Standards) and then International Financial Reporting Standards (IFRS). Since its creation, IASC has issued and implemented accounting standards which were then changed, or abolished, or replaced by new ones, in line with the economic environment at the time.

Data quality increases in pace with the degree of standardization of private accounts. However, even when business accounts are not compiled using a strictly standardized basis, they may be used for compiling national accounts, especially for sectors of the economy dominated by a small number of very large enterprises.

To find out more...

Links between business accounting and national accounting, Studies in Methods, Serie F, No.76, UN 2000

In general, the main rules and methods for business accounting (IAS/IFRS) are consistent with those of the SNA. Examples are: recording transactions in accounts using the

accrual principle, double-entry principle and use of balances, monetary valuation, and internal consistency of the accounts system.

Depending on the specificity of each country's business accounting, national accountants may apply certain '**bridge tables**' that serve to convert business accounting indicators (obtained at mezzo-economic level like, for example, sectors of activity) into national accounts aggregates, albeit in a rough format. Due to the fact that micro-indicators do not exactly fit the requirements of the SNA aggregates, the transition is completed by applying certain **adjustments**, such as: conceptual adjustments, adjustment to achieve accounting consistency with other sectors and adjustments for exhaustiveness.

Preparation of 'bridge tables', as part of compiling a national accounts strategy, follows the phases outlined below:

- Identification of administrative data sources;
- Analysis of content in respect of national accounting methodological requirements;
- Collection of data source indicators;
- Translation of each indicator from administrative data sources into national accounts concepts;
- Application of adjustments to meet national accounting requirements;
- Estimation of the national accounts indicators.

'Bridge tables' are used for non-financial and financial corporations, for government and for the rest of the world using the existing administrative data source format.

3.2.1. Financial statements of non-financial corporations

IAS 1 is the reference standard for the 'Presentation of the financial statement', whose proposed structure is applied as such for non-financial corporations (or enterprises). Various other standards regulate specific accounting issues pertaining to the activities of an enterprise.

Enterprises disclose their accounting information by using at least two accounting statements:

1. The *income statement*, covering income and costs transactions during the financial year, considered as flow accounts;
2. The *balance sheet*, showing the value of assets and liabilities at the end of the financial year, covering stock accounts.

International standards also require information on:

- *Cash flow statement*, which specifies an enterprise's sources and uses of cash from operating, investing and financing activities, during the financial year; its aim is to present real cash flows and it is similar to the SNA in the sense that internal transactions for depreciation and reservation are not taken into account.

- *Accounting policies* and *explanatory notes*, offering valuable details about how the information already disclosed was completed.

Compilation of national accounts using data from non-financial business accounting is easier if the income statement is presented *by nature* (origin of the expenditures such as: depreciation, purchase of materials, transport costs, employee benefits, and advertising costs) instead of *by function* (destination of expenditures such as: costs of sales, selling and administrative expenses).

The income statement is mostly used for drawing up the production account of non-financial enterprises. Output and intermediate consumption can be roughly calculated as follows (assuming the availability of an income statement presented mostly by nature):

Output = Output sold + Output held as inventory + Capitalized output + Sales of goods bought for resale - Purchases of goods bought for resale + Changes in stocks of goods bought for resale + Other operating income

Intermediate consumption = Purchases of raw materials and supplies + Changes in stocks of raw materials and supplies + Other purchases and external charges + Other operating costs

Compensation of employees corresponds to the expenses incurred by an enterprise in relation to its employees, a definition which is also used in private accounting, so that there are relatively few adjustments to be made to convert data from business accounting to national accounting.

Other indicators may be estimated using information from the financial statements:

- **Taxes and subsidies** are recorded in an enterprise's financial statement. Business accounts are generally operated exclusive of deductible VAT so that the information on input VAT and output VAT often only appears in the notes to the accounts. Other production taxes and other production subsidies appear in the income statement. The tax on profit paid during the course of the financial year may be found either in the income statement of the previous financial year, or in the sources and uses of funds statement for the financial year or in the appended tables.
- **Property income** includes interests, dividends, rents on non-produced assets and equity earning. Interest received and paid appears in the income statement, and must be adjusted for financial intermediation services indirectly measured (FISIM). Income received from investment must also be increased by commission deducted at source. Dividends received appear on the credit side of the income statement. Conversely, dividends paid by an enterprise appear neither on the income statement, nor on the balance sheet, and it is therefore necessary consult another document such as the sources and uses of

funds statement. Reinvested earnings on direct foreign investment cannot be gleaned directly from either the balance sheet or the income statement, and can only be estimated on the basis of supplementary information about company shareholders. Property income allocated to policyholders is deducted from insurance premiums paid by an enterprise by applying a ratio calculated from the accounts of insurance companies.

- **Other current transfers** are rarely identifiable as such in business accounting as they are often grouped with other items under 'other income' or 'other expenses'.
- **Gross fixed capital formation** is defined in national accounting as the difference between acquisitions and disposals of fixed assets. These two components may be separately extracted from business accounting (especially from the balance sheet) by type of assets. However, the main impediment to directly transposing these two information items to national accounts is due to their evaluation, as national accounts requires valuing them at current market prices. The best way to value acquisitions is to use a reconciliation schedule between the opening and closing book values of fixed assets. This schedule, which has been made mandatory by the IFRS standards, provides information on acquisitions and the various elements that allow a transition from the opening value of the assets to their closing value, maintaining their fair value. On the other hand, when assets are valued on the basis of an amortization schedule, the reconciliation schedule only provides information on disposals valued at historic cost. To translate the disposal price when estimating national accounts, capital gains or capital losses made on these disposal operations need to be taken into consideration. When this information is not expressly shown in the income statement, disposal value may be reconciled with the historical cost taken from the reconciliation schedule which appears in the cash-flow statement. For all enterprises, payments must differ very little from disposals. Available accounting documents should allow for distinguishing tangible fixed assets from intangible fixed assets and financial fixed assets.
- The **balance sheet** in national accounting is very similar to that of business accounting, in particular where the latter applies the concept of fair value. Two main limitations need to be pointed out: possible differences in classification and evaluation at historic cost of assets. Information contained in the balance sheet may be used to value fixed assets. National accountants generally use perpetual inventory methods (PIM) to value them.

Table V.2 presents a simplified 'bridge table', with no other adjustments, when very few indicators are available from accounting statements, on the hypothesis that cash-flow statement can provide information on actual flows (at current valuation).

Table V.2: Simplified ‘bridge table’ for non-financial corporations

No. Crt	Financial statement indicators	Financial Statement (code)	Thou. currency	SNA aggregates
1	Net turnover	IS	32 200	P.1
2	Other income (e.g. from licenses)	IS	500	P.1
3	Own production of non-mobile assets	IS	80	P.1
4	Changes in stocks of finished products and work-in-progress	IS	300	P.1
5	Cost of goods bought (for resale)	IS	100	P.1
6	Cost of sales (goods & services)	IS	15 000	P.2
7	Other operating expenses (less personnel expenses)	IS	10 000	P.2
8	Increase in provisions (they should be removed, are not real expenses)	CFS	-300	- P.2
9	Movement of inventories	CFS	350	P.5.2
10	Investment in tangible fixed assets	CFS	4 600	P.5.1
11	Disinvestment tangible fixed assets	CFS	-200	P.5.1
12	Personnel expenses	IS	6 800	D.1
13	Interest (net)	IS	400	D.4
14	Dividends Paid	CFS	1 500	D.4
15	Profit taxes current year	IS	800	D.5
16	Profit taxes previous year	IS	700	D.5

IS = income statement

CFS = cash-flow statement

Note: SNA transactions are presented in Annex II

From the numerical example, the main indicators can be estimated

Output = 32 200 (1) + 500 (2) + 80 (3) + 300 (4) - 100 (5) = 32 980

Intermediate consumption = 15 000 (6) + 10 000 (7) - 300 (8) = 24 700

Gross value added = Output (32 980) - Intermediate consumption (24 700) = 8 280

After establishing the rough ‘bridge table’, the transition from business accounting to national accounting may be completed by making some **adjustments** to base data – mostly for compiling value added.

The main adjustments that can be made are:

- **Conceptual adjustments**

Conceptual adjustments are required because of differences in the concepts used in country-specific private accounting and in national accounting. The nature of the adjustments applied to each indicator is diverse, but sometimes the same adjustments can be applied for consistency. They vary among countries, thus no comprehensive list can be supplied; however a few examples can be presented:

- In the case of output, adjustments are applied for the transition to basic price. The turnover of enterprises is generally net of VAT but often includes taxes on products. Contrarily, subsidies on products are rarely included in turnover. Therefore, data resulting from business accounting needs to be adjusted by deducting taxes on products and adding subsidies on products in order to obtain the basic price.
- Own-account output for research and development is part of output. In business accounting it is not valued and an adjustment must be made to the total value when translating it to national accounting.
- Adjustment for deliveries between establishments belonging to the same enterprise impacts on the value of output and intermediate consumption. Such deliveries are not usually the object of a sale and although they do not appear in the accounts system of an enterprise, they have to be recorded in the national accounts where they correspond to an output and/or intermediate consumption by one establishment delivered to another establishment belonging to the same enterprise.
- Adjustment for holding gains/losses in stock valuation. Holding gains/losses may appear whenever elements from the income statement are deducted from elements valued in the balance sheet. In business accounting, stock changes are measured by the difference between the closing stock value and the opening stock value. In national accounting, the stock changes correspond to the difference between entries into and withdrawals from stock. For

example, an intermediate consumption of raw materials generally originates not directly from a purchase, but from a withdrawal from stock. In national accounting, a withdrawal from stock must be valued at the market price at the time it took place, while business accounting values a withdrawal from stock at its historical cost (i.e. at the price of the goods item at the time they were purchased). The difference between the two prices is considered in national accounting as a holding gain or a holding loss.

- Consumption of fixed capital included in national accounts is different from the depreciation concept existing in the accounting system and adjustments are necessary.

To find out more...

Links between business accounting and national accounting, Studies in Methods, Serie F, No.76, UN 2000, paragraph. 2.22

The 2008 SNA, European Commission, IMF/OECD, UN, World Bank, 2009, Chapter XX: Capital service and national accounts.

- **Adjustments for consistency** with the accounts of other sectors

This adjustment applies in particular to taxes and subsidies. Taxes and subsidies derived from the accounts of an enterprise must be equivalent to those received by or paid by general government. In practice, this is not the case. Data from business accounts has to be adjusted because usually information relating to general government is more reliable than those drawn from the statistics of enterprises.

- **Adjustments for exhaustiveness**

They are applied to improve the coverage of national accounts aggregates. They can depend on various situations such as: absence of an enterprise from statistical files, exemption from tax and social declarations, and evasion.

An example with the main adjustments necessary to obtain national accounts indicators is presented in Table V.3.

Table V.3: Example of adjustments for transition from accounting gross value added to SNA gross value added

	Output	Intermediate consumption	Gross value added
Total accounting	32 980	24 700	10 280
Conceptual adjustments:			
~Taxes on products	-1 800		
~Subsidies on products	80		
~Holding gains	-310	400	
~FISIM allocation		150	
~Intra-unit deliveries	300	230	
Exhaustiveness adjustments:			
~Black labour	2 100	650	
~VAT fraud	900		
TOTAL National accounts indicators	34 250	26 130	8 120

3.2.2. Financial statements of financial corporations

There is a wide variety of financial units in the world. To describe them all is beyond the scope of this handbook, so only the financial units that best describe the three main types of financial services (financial intermediation, financial auxiliary services and insurance and pension schemes services) will be explained.

3.2.2.1 Banks

Banks are deposit-taking corporations whose main activity is financial intermediation. They have liabilities in the form of deposits or financial instruments (such as short-term certificates of deposit) that are close substitutes for deposits. Their accounting is internationally standardized, using the structure required by IAS 1, but also in accordance with other standards (such as IFRS 2 'Share-based payment – Vesting conditions and cancellations', IAS 23 'Borrowing costs', IFRS 7 'Financial instruments: disclosures', etc.).

Banks accept deposits from units wishing to receive interest on funds for which the unit has no immediate use and lends them to other units whose funds are insufficient to meet their needs. Each of the two parties pays a fee to the bank for the service provided, the unit lending funds by accepting a rate of interest lower than that paid by the borrower, the difference being the combined fees implicitly charged by the bank to the depositor and to the borrower. From this basic idea emerges the concept of a 'reference' rate of interest (R^*). The difference between the rate paid to banks by borrowers and the reference rate R^* plus the difference between the reference rate R^* and the rate actually paid to depositors represents

the costs for Financial Intermediation Services Indirectly Measured (FISIM).

Table V.4 shows the simplified bridge table for banking institutions linking income statement transactions (as stated by IAS/IFRS and European Directives on Accounting) to SNA transactions and a fictitious numerical example (first column of the table) to show how to estimate the output and the intermediate consumption.

Table V.4: Simplified bridge table for banking institutions

No. Crt	Items from accounting statements	Thou. Currency	SNA transactions
1	Stock of loans (asset)	43 78 889	
2	Stock of deposits (liability)	5 152 500	
3	Interest receivable (on loans) and similar income	78 820	D.4
4	Dividend income	870	D.4
5	Interest payable (on deposits) and similar expenses	61 830	D.4
6	Income from fees charged	10 950	P.1
7	Expenses with fees paid	2 980	P.2
8	Personnel expenses, of which:		D.1
	<i>Wages and salaries</i>	7 740	D.11
	<i>Social security costs</i>	3 110	D.121
	<i>Pension costs</i>	2 500	D.121
	<i>Post-employment medical benefits</i>	10	D.122
9	General and administrative expenses	10 480	P.2
111	Interest receivable (on loans) and similar income	3 550	(not used for Consumption of fixed capital, because of different valuation)
11	Other operating expenses	219	(not of P.2 nature)

*R** - reference rate of interest, with no service element (usually an inter-bank borrowing and lending rate); let us assume that $R^* = 1.5\%$

Note: SNA transactions are presented in Annex II.

From the numerical example, the main indicators can be estimated:

$$\text{FISIM} = \text{FISIM loans} + \text{FISIM deposits} = [78\,820\ (3) - 4\,378\,889\ (1) \times R^*] + [512\,500\ (2) \times R^* - 61\,830\ (5)] = 13\,137 + 15\,458 = 28\,595$$

$$\text{Output} = 28\,595 + 10\,950(6) = 39\,545$$

$$\text{Intermediate consumption} = 2\,980\ (7) + 10\,480\ (9) = 13\,460$$

$$\text{Gross value added} = 39\,545 - 13\,460 = 26\,085$$

Estimates for other SNA transactions from financial statements adopt the same approach as for non-financial corporations, bearing in mind the fact that no subsidies are usually offered to financial institutions and that classified taxes must be made consistent with the rest of the institutional sectors, as described for non-financial corporations.

3.2.2.2 Insurance services

Insurance services are specific financial intermediations. The accounting statements of insurance companies are regulated by international standards, such as IAS 1.

Expenses are in general disclosed by function, although classification by nature (including wages and salaries) may be found in the Notes to financial statements.

The output of insurance services in 2008 SNA is particularly important. The formula for compiling output is described separately for non-life insurance and life insurance. Within the SNA, the output of the insurance industry is determined in a manner intended to mimic the premium-setting policies of insurance corporations. Output is usually compiled using income statements, while the technical account is the main part of the income statement which relates exclusively to insurance activity.

The basic method for measuring *non-life insurance output* is the following:

Total premiums earned, plus premium supplements, less adjusted claims incurred (the 2008 SNA, Chapter VI: The production account, paragraph 6.185).

Table V.5 offers a model of a simplified bridge table for non-life insurance institutions linking income statement transactions (as set out in IAS/IFRS and European Directives on Accounting) to SNA transactions, plus a fictitious numerical example to show how the main indicators are calculated.

Table V.5.: Simplified Bridge table for Non-life-insurance business

No. Crt	Items from accounting statements	Thou. Currency	SNA transactions
1.	Earned premiums, net of reinsurance	25 700	+ P.1
2.	Allocated investment return transferred from the non-technical account ~ <i>apart from insurance activity</i>	10	D.4
3.	Other technical income, net of reinsurance	100	+P.1
4.	Claims incurred, net of reinsurance	6 500	- P.1
5.	Changes in other technical provisions, net of reinsurance, not shown under other headings (+/-)	700	+P.1
6.	Bonuses and rebates, net of reinsurance	40	- P.1
7.	Net operating expenses:	3 000	P.2
	a) acquisition costs	4 000	
	b) change in deferred acquisition costs (+/-)	200	
	c) administrative expenses	1 000	
	d) fees from reinsurance (-)	-2 200	
	e) Wages and salaries (including social security contributions)	800	D.1
	f) Depreciation	250	
8.	Change in the equalization provision (+/-)	90	-P1

Note: SNA transactions are presented in Annex II.

From the numerical example, the main indicators can be estimated:

Output = Premium earned (25 700 (1) – 40 (6)) + Premium supplements (700 (5)) + Other technical income (100 (3)) - Adjusted claims incurred (6 500 (4) + 90 (8)) = 19 870

Intermediate consumption = Net operating expenses (3 000 (7)) – Wages and salaries (800 (7e)) – Depreciation (250 (7f)) = 1950

Gross value added = Output (19 870) – Intermediate consumption (1 950) = 17 920

The output of *Life insurance* is based on the following formula:

Premiums earned, *plus* premium supplements, *less* benefits due, *less* increases (*plus* decreases) in life insurance technical reserves (The 2008 SNA, Chapter VI: The production account, paragraph 6.195).

The simplified bridge table for life insurance institutions linking income statement transactions to SNA transactions is shown in Table V.6. As usual, a numerical example is also provided in the table and calculations of the main indicators below the table.

Table V.6: Simplified Bridge table for Life-insurance business

No. Crt	Items from accounting statements	Thou. currency	SNA transactions
1.	Earned premiums, net of reinsurance	13 000	+ P.1
2.	Investment income:	4 600	+ P.1 / D.4
	a) income from participating interests, with a separate indication of that derived from affiliated undertakings	2 600	
	b) income from other investments, with a separate indication of that derived from affiliated undertakings	2 000	
	aa) income from land and buildings	1 400	
	bb) income from other investments	600	
3.	Unrealized gains on investments	40	-P.1
4.	Other technical income, net of reinsurance	50	P.1
5.	Claims incurred, net of reinsurance	3 000	- P.1
6.	Changes in other technical provisions, net of reinsurance, not shown under other headings (+/-)	100	- /+P.1
7.	Bonuses and rebates, net of reinsurance	30	- P.1
8.	Net operating expenses:	5 000	P.2
	a) acquisition costs	2 100	
	b) change in deferred acquisition costs (+/)	1 000	
	c) administrative expenses	1 900	
9.	Wages and salaries (including social security contributions)	1 250	D.1
10.	Depreciation	900	
11.	Investment charges	30	P.2
	a) investment management charges, including interest	15	
	b) value adjustments on investments	7	
	c) losses on the realization of investments	8	
12.	Unrealized losses on investments	60	P.1
13.	Other technical charges, net of reinsurance	1	P.2

Note: The SNA transactions are presented in annex II.

From the numerical example, the main indicators can be estimated:

Output = Premium earned (13 000(1) – 30(7)) + Premium supplements (4 600(2)) – Difference of gains and losses in realization of investments (40 (3) – 60 (12)) – Benefit due (3 000(5)) – Changes (+/-) in technical reserves (1 00(6)) = 14490

Intermediate consumption = Net operating expenses (5 000 (8) – 1 250 (9) – 900 (10)) + Investment charges (30 (11)) + Other technical charges, net of reinsurance (1 (13)) = 2 881

Gross value added = Output (14 490) – Intermediate consumption (2 881) = 11 609

3.2.3. Government financial statement

Administrative data sources for the general government sector are a central element in compiling national accounts. Statistics for government units and public corporations are often derived directly from the microdata in the government financial accounting database and are based heavily on accounting information. The development in recent years of International Public Sector Accounting Standards by the International Public Sector Accounting Standards Board of the International Federation of Accountants has increased the need for clear guidance on the compilation of government finance statistics so that detailed accounting data can be transposed correctly into the framework of the SNA. Such guidance is especially important when government financial

accounts are compiled on a cash basis and must be converted to an accrual basis to comply with SNA accounting methods.

To find out more...

The 2008 SNA, European Commission, IMF, OECD, UN, World Bank, 2009, Chapter XXII: The general government and public sector.

Government Financial Statistics Manual, IMF 2001.

how each transaction extracted from government data contained in the budget income and expenses (here the State budget) are linked to SNA transactions. Note that each budget may contain, under the main titles, specific items according to specific necessities of the government units in each country.

Essentially the presentation of government finance, based on the budgets of government units (state, central, local, social security, etc.) consists of **transactions** that increase net worth leading to an aggregate called 'revenue' and transactions that decrease net worth leading to an aggregate called 'expense'. In addition, there are two main balancing items: 'net operating balance' and 'net lending or net borrowing'. Additional accounts can be shown for other economic flows and balance sheets.

Revenues include all resources acquired by governments as recorded in the SNA current accounts and capital transfers receivable recorded in the capital account. Revenues comprise: taxes, social contributions including grants, other current revenue (property income, market sales of goods and services, fines, penalties and forfeits, voluntary transfers, miscellaneous and unidentified revenue) and capital transfers receivable.

Expenses may be defined as all uses incurred by governments as recorded in the SNA current accounts and capital transfers payable as recorded in the capital account. Specifically, expenses cover: production expenses (compensation of employees, intermediate consumption and consumption of fixed capital), interest payable, grants, social benefits, other current expenses and capital transfers payable.

Net lending or net borrowing is the amount a government has available to lend or must borrow to finance its non-financial operations. Net lending or net borrowing can be calculated as the net operating balance *less* the net acquisition of non-financial assets, or total revenue *less* total outlays. Net operating balance is defined as revenue *less* expense, and outlays *equal* expense, *plus* acquisitions *less* disposals of non-financial assets.

Government budgets in each country are determined by law, being first adopted, and then executed during the period (year). Data are allocated to SNA elements, according to two classifications of expenses:

- Economic classification of expenses
- Functional classification- Classification of the Functions of Government (COFOG).

Table V.7 and Table V.8 offer an example (not exhaustive) of

Table V.7: Simplified bridge table for the State budget – income

Budget items	SNA transactions
TOTAL INCOME	
I. CURRENT INCOME	
A. FISCAL INCOME	
A.1 INCOME TAX, PROFIT AND CAPITAL EARNINGS	
A.1.1 INCOME TAX, PROFIT AND CAPITAL EARNINGS FROM LEGAL ENTITIES	
1.1.1 INCOME TAX	D51
e.g. Income tax from economic agents	D51
1.1.2 OTHER TAXES ON INCOME, PROFIT AND CAPITAL EARNINGS FROM LEGAL ENTITIES	D51
e.g. Tax on the incomes obtained by non-resident legal entities	D51
A.1.2. TAX ON INCOME, PROFIT AND CAPITAL EARNINGS FROM NATURAL PERSONS	
TAX ON INCOME	D51, D21
e.g. Tax on salary income	D51
e.g. Tax on the income from the transfer of real estate properties from own total assets	D21
BROKEN DOWN QUOTAS AND AMOUNTS FROM THE TAX ON INCOME (TO BE DEDUCTED)	D51
A.1.3. OTHER TAXES ON INCOME, PROFIT AND CAPITAL EARNINGS	D51
A2. TAX ON SALARIES	D51
A3.TAXES AND DUTIES ON OWNERSHIP	
e.g. Tax on the land located outside the city area	D59
A4.TAXES AND DUTIES ON GOODS AND SERVICES	
VALUE ADDED TAX	D21
BROKEN DOWN VAT AMOUNTS (to be deducted)	D21
e.g. Broken down VAT amounts for roads (to be deducted)	D21
OTHER TAXES AND GENERAL DUTIES ON GOODS AND SERVICES	
e.g. Tax on the crude oil from internal production and natural gases	D21
e.g. Quotas applied on the income obtained in the civil aviation field	D29
EXCISES	D21, D21
e.g. Excises collected from the sale of mineral oils	D21
e.g. Excises collected in customs from the import of mineral oils	D21
DUTIES ON SPECIFIC SERVICES	D.21
DUTIES ON THE USE OF GOODS, AUTHORIZATION OF THE USE OF GOODS OR PERFORMANCE OF ACTIVITIES	D51, D29, D21
e.g. Duties on gambling	D51
A5. TAX ON FOREIGN TRADE AND INTERNATIONAL TRANSACTIONS	
CUSTOMS DUTIES AND OTHER DUTIES ON INTERNATIONAL TRANSACTIONS	D21, D29
e.g. Custom duties from legal entities	D21
A6. OTHER TAXES AND FISCAL FEES	D51
B. INSURANCE CONTRIBUTIONS	D611
C. NON-FISCAL INCOME	
C1.OWNERSHIP INCOME	
OWNERSHIP INCOME	D42, D75, D45
INCOME FROM INTEREST	D41
C2. SALE OF GOODS AND SERVICES	P11
II. CAPITAL INCOME	
INCOME FROM CAPITALIZATION OF ASSETS	P51
III. FINANCIAL OPERATIONS	Financial transaction
COLLECTIONS FROM THE REPAYMENT OF LOANS GRANTED	

Note: The SNA transactions are presented in Annex II.

Table V.8: Simplified Bridge table for State budget – expenses

Budget items	SNA transactions
TOTAL EXPENSES	
A. CURRENT EXPENDITURES	
TITLE I. STAFF EXPENDITURES	
<i>e.g. salary expenditures in cash</i>	D11
<i>salary expenditures in kind</i>	D11
<i>Contributions</i>	D12
TITLE II. GOODS AND SERVICES	
Goods and services	D51
-office supplies	P2
-cleaning materials	P2
-heating, lighting	P2
-water, sewerage, sanitation	P2
-fuels and lubricants	P2
-transport	P2
-mail, telecommunications, radio, TV, internet	P2
-other goods and services for maintenance and operation, etc.	P2
<i>Current repairs</i>	P2/D73
<i>Food</i>	
-food for humans	D11
-animal feed	P2
<i>Medicinal products and medical materials</i>	P2
Goods as inventory items	
-uniforms and equipment	D11
-bed linen and accessories	P2
<i>Travels, secondments</i>	P2/D11
Books and publications, etc.	P2
Actions of a scientific and social and cultural nature	D75
.....	
Other expenditure, such as:	
-protocol and representation	P2
-non-life insurance premiums	D71
-rents	D45
TITLE III. INTEREST	D41, D92
TITLE IV. SUBSIDIES	
Subsidies for products	D31
Social protection in the mining sector	D62
Support for farmers, other grants, etc.	D39
TITLE VI. TRANSFERS BETWEEN THE GENERAL GOVERNMENT'S UNITS	
* Current transfers	
Transfers to public institutions	D73
Maintenance of road infrastructure, etc.	D92
* Capital transfers	
Transfers to finance investments in hospitals	D73
Programme for paving of roads and water supply of villages, etc.	D92
TITLE VII. OTHER TRANSFERS	
A. Internal transfers	
Reimbursable financing programmes	P51/D92

Budget items	SNA transactions
Community programmes	D75
Investment of economic operators with state capital	D92
Restructuring of the defence industry	D39
Current repairs relating to public railway infrastructure, etc.	P2
B. Current transfers abroad (to international organizations)	D74
TITLE VIII. SOCIAL ASSISTANCE	
Social security	D62
Special pensions	D12
-social aids in kind	D63
TITLE IX. OTHER EXPENDITURE	
Scholarships	D62
Associations and foundations, etc.	D75
State orders for books and publications, etc.	P2
B. CAPITAL EXPENDITURES	
TITLE X. NON-FINANCIAL ASSETS	
Fixed assets: e.g. constructions, machines, equipment and transportation means, etc.	P51
Inventories	P52
TITLE XI. FINANCIAL ASSETS	Financial transactions
TITLE XII. LOANS	Financial transactions
TITLE XIII. REPAYMENT OF LOANS	Financial transactions

Note: The SNA transactions are presented in Annex II.

From budgetary execution data, functional classification allows direct classification by activity. Thus, COFOG is more appropriate than ISIC for classifying government expenditure because the COFOG list of functions is more detailed than the ISIC list of activities, having been drawn up specifically to take into account the range and diversity of government activities.

3.2.4. Balance of Payments

The Balance of Payments (BoPs) is the main data source that describes the international transactions used for building accounts for the rest of the world sector of SNA.

The 2008 SNA uses the same macroeconomic framework as the 'Balance of Payments and Investment Position Manual' 6th edition (BPM6).

The Balance of Payments includes all the transactions between residents and non-residents during a specific time period.

To find out more...

The 2008 SNA, European Commission, IMF, OECD, UN, World Bank, 2009, Chapter XXVI: The rest of the world accounts and links to the balance of payments.

International accounts cover accounts for current transactions (current accounts), accumulation accounts and balance

sheets. The three current accounts are the goods and services account, the primary income account and the secondary income account. The primary income account corresponds to the allocation of primary income accounts in the SNA and the secondary income account corresponds to the secondary distribution of income account in the SNA. The structure of balancing items in the balance of payments is somewhat different from that in the SNA, in that each account has its own balancing item and another that carries forward to the next account.

With respect to the capital account, the transactions covered are more restricted than those covered in the SNA, including only acquisitions and disposals of non-produced non-financial assets and capital transfers.

In the description of the rest of the world accounts, exports, for example, are treated as a use by the rest of the world and imports as a resource from the rest of the world. Thus the BPM6 entries are the mirror image of the SNA entries.

Table V.9: Simplified bridge table from BoPs items to SNA transactions

Items from Balance of Payments	Credit BoPs (Uses in SNA)	Debit BoPs (Resources in SNA)
1. CURRENT ACCOUNT		
A. Goods and services (Goods and services account)	P6	P7
a. Goods (FOB exports – FOB imports)	P61	P71
b. Services	P62	P72
- transport		
- tourism		
- other services		
B. Incomes (Primary income account)		
- Compensation of employees	D1	D1
- Interest	D41	D41
- Distributed income of corporations	D42	D42
- Reinvested earnings	D43	D43
C. Current transfers (Secondary income account)		
<i>General government</i>		
- Receipts from taxes, fines, penalties, etc.	D5	D5
- Granted subsidies/ received for sustaining the current budget; governmental contributions to administrative budgets of international organizations, etc.	D74	D74
- Miscellaneous current transfers of general government, such as:	D75	D75
-payments for scholarships and other similar transfers	D75	D75
-payments for taxes of being member of non-governmental transfers and other current transfers	D75	D75
<i>Other sectors (financial corporations, non-financial corporations, NPISHs)</i>		
-Taxes on income and wealth, fines, taxes, contributions payable to foreign governments	D51	D51
-Workers remittances - cash transfers made by foreign workers to residents belonging to workers former economy	D75	D75
-Miscellaneous current transfers, as:	D75	D75
-alimonies, successions etc.	D75	D75
-contributions to religious, scientific, cultural and charity organizations; donations, aids, subsidies, etc.	D75	D75
-rewards gained by non-residents	D75	D75
-scholarship and other similar aids, reimbursements of taxes, non-contractual pensions and other benefits received from foreign governments	D75	D75
-other monetary transfers residents - non-residents	D75	D75
2. CAPITAL AND FINANCIAL ACCOUNT		
<i>of which:</i>		
a. Capital transfers	D99	
- Public administration		
- Other sectors		
b. Acquisition/sales of non-produced, non-financial assets	NP	

This example does not cover all standard items in BoPs. For full coverage of transition, see Appendix 9, page 303-304 of Balance of Payments and Investment Position Manual sixth edition (BPM6), at <http://www.imf.org/external/pubs/ft/bop/2007/pdf/bpm6.pdf>
Note: SNA transactions are presented in Annex II.

3.3 Concluding remarks

The use of administrative data sources is an important aspect of the national accounts estimation process. Statistical offices attempting to reach the first milestone for compiling the SNA must pay special attention to the identification, collection and uses of administrative data (following the phases presented in Chapter III).

Table V.10 shows the main administrative sources according to which national accounts indicators can be estimated. The list is very synthetic, because administrative sources depend on country organization, level of economic development and the way in which international recommendations are applied.

Table V.10 Main administrative data sources useful for SNA implementation

Administrative sources	Used for the estimation of
Financial statements of non-financial and financial corporation	Production, intermediate consumption, gross fixed capital formation, changes in inventory.
Financial statements of government (income and expenditure)	Production and intermediate consumption of government; gross fixed capital formation; changes in inventory; final consumption of government; taxes and subsidies on products; taxes and subsidies on production.
Custom declaration for import and export	Import and export of goods
Balance of Payments	Import and export of services

3.3.1 Questions for practitioners

The use of administrative data sources for compiling national accounts requires the following issues be answered:

- What is the administrative data in the country? What is its content, frequency, and deadline for dissemination? Could it be useful for national accounts purposes?
- Is it possible to gain access to these sources? Do agreements for collaboration and memorandum need to be set up?
- Are the proper ways of collecting administrative records and using them for statistical purposes in place?
- Have ‘bridge tables’ for translation from accounting indicators to national accounts concepts been defined?

In many developing countries and small islands, the problem of ensuring the data sources needed for compiling the SNA does not only depend on the lack of basic statistical data, but also on legal and institutional arrangements: administrative data may be used for national accounts purposes if it is mandated by law and regulations. Under these conditions, the most important problem (lack of available data sources) may be resolved by creating the conditions for accessing administrative data.

4. Recommended reading

Section 1.1: Business register

- *Business register Recommendations manual*, Eurostat, 2010; Chapter III: ‘Objectives and uses of the business registers for statistical purposes’; Chapter IV: ‘Maintenance of the register’;
- *Eurostat-OECD Manual on Business Demography Statistics*, OECD, Eurostat, 2007;
- *Statistical business registers based on administrative records*, paper presented to the Second meeting of the Statistical Conference of the Americas of the Economic Commission for Latin America and Caribbean, June 2003; Chapter II: ‘Objectives and uses of the statistical business register’;
- *A motivational model for running a statistical business register*, by Sturm R., Paper presented to the European Establishment Statistics Workshop – EESW09, Stockholm, 2009.
- *Statistical Business Register in countries of Eastern Europe, Caucasus and Central Asia: 2008 Questionnaire Survey results*, paper presented to the Conference of European Statisticians, 2009;

Section 1.2: Classifications

- *The 2008 SNA*, European Commission, IMF, OECD, UN, World Bank, 2009, Chapter V: ‘Enterprises, establishments and industries’; Chapter XXIX: ‘Satellite accounts and other extensions’ International Standard Industrial Classification of All Economic Activities (ISIC) Rev.4, Statistical papers, Serie M, No.4/Rev.4, UN 2008 http://unstats.un.org/unsd/publication/SeriesM/seriesm_4rev4e.pdf;
- Central Product Classification Version 2 (CPC2) http://unstats.un.org/unsd/publication/SeriesM/SeriesM_77ver1_1E.pdf;
- Classifications of Expenditure According to Purpose http://unstats.un.org/unsd/publication/SeriesM/SeriesM_84E.pdf;
- Harmonized Commodity Description and Coding System (HS07) <http://www.imf.org/external/np/leg/tlaw/2007/eng/ith.pdf>
- http://unstats.un.org/unsd/publication/SeriesM/SeriesM_52rev2E.pdf;
- Standard International Trade Classification (SITC Rev.4) http://unstats.un.org/unsd/publication/SeriesM/SeriesM_34rev4E.pdf.

Section 2: Statistical data sources

- *The 2008 SNA*, European Commission, IMF, OECD, UN, World Bank, 2009;
- *Measuring the Non – Observed Economy – A Handbook*,

OECD, 2002; Chapter VI: ‘Assessment and improvement of data collection programme’;

- *Use of the System of National Accounts in Economies in Transition*, Studies in methods, Series F, no.66; Chapter VI: ‘Reorientation of data sources’;
- *A system approach to national accounts compilation*, Studies in Methods, Series F, No.77, UN 1999; Chapter III: ‘Cycles of national accounts and supporting compilation of micro(economic) statistics’;
- *International Recommendation for Distributive Trade Statistics 2008*, Statistical papers, Serie M, No.89, UN 2009;
- *International Recommendation for Industrial Statistics, 2008*, Statistical papers, Serie M, No.90, UN 2009;
- *Export and Import Price Index Manual-Theory and Practice*, ILO, IMF, OECD, Eurostat, UNECE, World Bank, IMF,2009;
- *Practical Guide to Producing Consumer Price Indices*, UNECE, ILO, IMF, OECD, Eurostat, World Bank, Office for National Statistics, UK, United Nations, 2009;
- *Producer Price Index Manual Theory and Practice*, ILO, IMF, OECD, UNECE, World bank, 2004;
- *Eurostat-OECD Manual on Business Demography Statistics*, OECD, Eurostat, 2007;
- *Main economic indicators, comparative methodological analysis: Consumer and Producer Price Indices*, OECD, 2002;
- *Main economic indicators-Sources and methods: construction price indices*, OECD, Eurostat, 2001.

Section 3: Administrative data sources

- *The 2008 SNA*, European Commission, IMF, OECD, UN, World Bank, 2009; Chapter I: ‘Introduction’; Chapter XXII: ‘The general government and public sector’; Chapter XXVI: ‘The rest of the world accounts and links to the balance of payments’;
- *Guide méthodologique pour l’élaboration des comptes nationaux dans les états membre d’Afristat*, Afristat, Serie Méthodes No.4, 2001; Chapters II-III: ‘Le comptes des administrations publiques’; chapter II-IV: ‘Le commerce extérieur et la balance des paiements’; Chapters II-VII: ‘Le traitement des données d’entreprises’;
- *Links between business accounting and national accounting*, Studies in methods Series F, No 76, UN 2000;
- *Understanding National Accounts*, Lequiller F, Blades D., OECD 2006; Chapter VII: ‘Business accounts’;
- *Balance of Payments and Investment Position*, Sixth Edition, (BPM6) 2009, International Monetary Fund;
- *IAS Plus: Summaries of IFRSs and IASs* at <http://www.ias-plus.com/standard/standard.htm>.

The Informal Sector

VI

The chapter in brief

The non-observed economy exists in all countries, while the observed and non-observed informal sector involves in many least-developed and developing countries an important labour force, which contributes to economic production. The economic impact of the informal sector is hard to measure because of the difficulty in defining and analysing the phenomenon owing to the limited available information. This is often due to the financial restrictions faced by statistical offices and the characteristics of the informal sector in a country. This chapter looks at the informal sector vis-à-vis the non-observed and observed economies, defining and presenting the criteria used to identify the informal sector, the measurement methods to be adapted to country specificities and the most relevant statistical surveys used for estimating it.

1. The Non-Observed Economy

The main purpose of national accounts is to offer an *exhaustive description* of an economy. This means that the main aim of compiling statistics is to cover as far as possible the productive activities belonging to the SNA. It is clear that an exhaustive coverage of national accounts is an important quality aspect.

Lack of coverage in national accounts leads to inconveniencing users and national accountants themselves:

- For users, improper coverage causes problems in understanding the economy both in terms of levels and trends. Levels of GDP and other data are downward biased, giving an inaccurate view of the economy, affecting international comparability. Biases in trend estimates can be expected if the economic activities missing from GDP change at different rates from those included.
- For national accountants, lack of coverage causes imbalances in the internal consistency of accounts because some economic transactions are not measured.

The possibility that some economic activities are omitted is addressed by the media, who often suggest, using simplistic assumptions, that the GDP figures published by national statistical offices are underestimates. To avoid this situation a national statistical office should elaborate a measurement program for improving the exhaustiveness of data, with clear objectives, roles and responsibilities for national accountants and for survey statisticians, including those in regional offices. This programme should be combined with other quality management and improvement initiatives. The major data users should also be informed of and involved in this program.

Definition

Non-observed economy (NOE) refers to all productive activities that may not be captured in the basic data sources used for compiling national accounts. The following activities are included: underground, informal (including those undertaken by households for their own final use), illegal, and other activities omitted due to deficiencies in the basic data collection program. The term 'non-observed economy' encompasses all of these activities and the related statistical estimation problems.

Source: Non-Observed Economy in national accounts, Survey of Country Practices, United Nations, 2008.

It is important to note that concerns about the non-observed economy do not lead to defining a separable way of measuring it. Rather concern should be aimed more at improving the overall quality of national accounts data.

Regular data sources – as described in Chapter V – may be affected by what are called *deficiencies in the basic data collection programme (statistical underground)*, due to:

- *under-coverage of enterprises*: enterprises, or parts of them, are excluded from the data collection program, though in principle they should have been included, due to several possible reasons:
 - an enterprise is new and has not yet been included in the survey frameworks;
 - an enterprise falls below the size cut-off for surveys;
 - an enterprise has been incorrectly classified by type of activity or by region and thus improperly excluded from the survey frame;
 - an enterprise has not been entered in the statistical register, regardless of its desire to be, because of the lack of efficiency of the statistical system, or due to the fact that registers are not updated, for instance.
- *non-response* by enterprises, depending on the sensitivity of the statistical system: enterprises are included in the sample but no data are collected from them and no imputation is made for the missing observations, because:
 - the survey questionnaire was wrongly addressed;
 - the enterprise, or part of it, did not return the questionnaire.
- *under-reporting by enterprises*: data is obtained from enterprises, but is misreported by the respondent, or correct data is received but is inappropriately input or weighted.

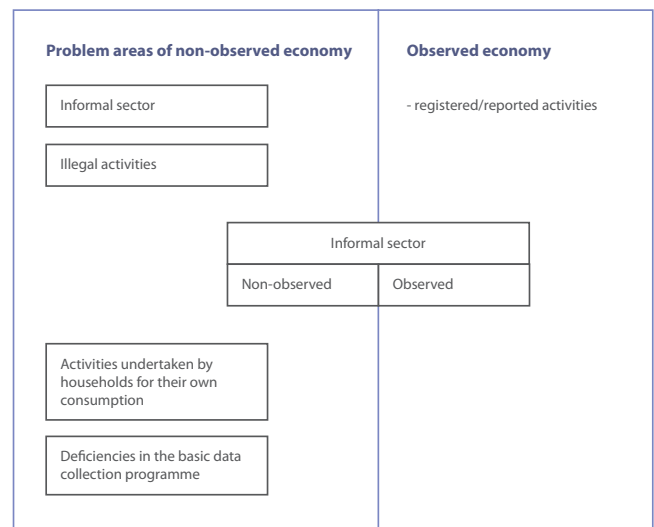
The situations above show quite clearly the need for improvements to basic data collection programmes with reference to the NOE: NOE measurements should be optimized by ensuring that basic data includes productive activities to the fullest extent possible.

In general, data sources are not enough to fully cover the productive process in the economy. This ‘non-observed’ part of the economy refers to the following activities⁽⁹⁾:

- *Underground activities*, defined as those activities that are productive and legal but are deliberately concealed from public authorities to avoid:
 - payment of income, value added or other taxes;
 - payment of social security contributions;
 - having to meet certain legal standards such as minimum wages, maximum hours, safety or health standards, etc.;
 - complying with certain administrative procedures, such as completing statistical questionnaires or other administrative forms.
- *Illegal activities*, defined as those productive activities specifically covered by SNA production boundary that:
 - generate goods and services forbidden by law (e.g. production and distribution of illegal drugs) ;
 - are unlawful when carried out by unauthorized producers (e.g. unlicensed practice of medicine).
- *Production of households for own final use*, defined as those productive activities that result in goods or services consumed or capitalized by the households that produced them, such as:
 - production of crops and livestock;
 - production of other goods for their own end use;
 - construction of own houses and other own-account fixed capital formation;
 - imputed rents of owner-occupiers, and services of paid domestic servants.
- *Non-observed informal activities*, being part of the informal sector also covering observed activities undertaken informally; in general, informal activities are 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.

These categories of non-observed activities were established to reflect a *convergence of opinion* amongst statisticians and national accounts experts. They attempt to cover all ‘problem areas’ encountered in achieving the most exhaustive estimates of national accounts. Various other terms are used to reflect these non-covered areas, such as the ‘shadow’ economy, the ‘cash’ economy, the ‘parallel’ economy, the ‘underground’ economy, etc. In all cases, said ‘problem areas’ must be *reciprocally exclusive*.

Figure VI.1: Delimiting the observed from non-observed economy in the 2008 SNA



The extent, impact and structure of the non-observed part of the economy vary considerably from country to country, depending on many aspects:

- structure and development of economy;
- legislation;
- organization of the national statistical system;
- political interest, etc.

In order to facilitate comparison across countries and to improve exhaustiveness of national accounts, Eurostat has carried out two rounds of Pilot Projects on Exhaustiveness (PPE) to address the differences in concepts, definitions, and methods and to identify the types of non-exhaustiveness. The tabular approach undertaken relates NOE areas with statistical problems encountered by national accountants (see Box VI.1).

(9) Measuring the Non-Observed Economy – a Handbook, OECD, 2002.

Box VI.1 Eurostat's tabular approach: types of non-exhaustiveness

I Not registered

N1 - Producer deliberately not registering - underground

Producer deliberately does not register to avoid tax and social security obligations. Most often this refers to small producers with turnovers that exceed threshold levels above which they should register. Producers that do not register because they are engaged in illegal activities fall under type N2. Type N1 does not include all underground activities, some of which are associated with type N6.

N2 - Producers deliberately not registering - illegal

Producer deliberately does not register as a legal entity or as an entrepreneur because it is involved in illegal activities. Type N2 excludes illegal activities by registered legal entities or entrepreneurs that report (or misreport) their activities under legal activity codes.

N3 - Producers not required to register

Producer is not required to register because it has no market output. Typically these are non-market household producers that engage in production of goods for own consumption, for own fixed capital formation, and construction of and repairs to dwellings. Or, producer has some market output but it is below the level at which the producer is obliged to register as an entrepreneur.

II Not surveyed

N4 - Legal persons not surveyed

Legal persons not surveyed due to several reasons such as: the business register is out of date or updating procedures are inadequate; the classification data (activity, size or geographic codes) are incorrect; the legal person is excluded from the survey frame because its size is below a certain threshold etc. This leads to (systematic) exclusion of the legal person from surveys when in principle they should be included.

N5 - Registered entrepreneurs not surveyed

Registered entrepreneurs may not be surveyed for a variety of reasons: the statistical office does not conduct a survey of registered entrepreneurs; the registered entrepreneur is not in the list of registered entrepreneurs available to the statistical office, or if available, is systematically excluded from it; the registered entrepreneur is not in the survey frame because the classification data (activity code, size code, geographic code) are incorrect.

III Misreporting

N6 - Producers deliberately misreporting

Gross output is under-reported and/or intermediate consumption is overstated, in order to evade income tax, value added tax (VAT), other taxes, or social security contributions. Misreporting often involves maintenance of two sets of books, payments of envelope salaries which are recorded as intermediate consumption; payments in cash without receipts, and VAT fraud.

IV. Other

N7 - Other statistical deficiencies

Type N7 is subdivided into:

N7a: data that are incomplete, not collected or not directly collectable;

N7b: data that are incorrectly handled, processed or compiled by statisticians.

The following areas should be investigated: handling of non-response; production for own final use by market producers; tips; wages and salaries in kind; and secondary activities.

Source: Non-Observed Economy in national accounts; Survey of Country Practices, UN, 2008

The main goal of the framework is to ensure that the NOE is measured systematically, potential areas are covered and no activities are double counted. Country comparison of the NOE, similarity in methods used and exchange of experience in implementation can be more easily ensured if the same frame is employed.

Measurement methods for the non-observed economy vary across countries.

Several sources are quite common, such as agricultural censuses, business statistics, household surveys, demographic data/population censuses, Labour Force Survey/labour statistics, taxation and fiscal data, police records, social security records and foreign trade statistics. Some sources are used only in one or a few countries, particularly the surveys for capturing a specific activity (e.g. tobacco smuggling). Other sources such as Labour Force Surveys and employment data, structural business surveys, household budget/expenditure surveys, and taxation data are widely used by countries.

The main methods used in estimating the NOE can be classified into two types:

1. Statistical methods, such as direct estimations based on direct surveys (surveys on expenditure, income, labour, time use or opinion, for instance) or indirect estimation based on available data sources.

Indirect statistical compilation methods can be classified by type into:

- *supply based* approach (including the *labour input* approach): it relies on data on the supply of inputs (number of primary raw materials, just one major raw material, labour, land, fixed capital stock, etc.) that are used for producing goods and services. Input/output and input/value added ratios are needed to calculate output and value added estimates from the input data.
- *demand based* approach: it aims to assess production by using indicator data on specific uses of goods and services that sufficiently describe their production: household final consumption expenditures of a certain commodity as health and personal services, uses

of raw materials such as the processing of agricultural products, major export commodities, administrative data indicating demand for a product, such as motor vehicle registrations and building permits, etc.

- *income-based* approach: it is based on available data from administrative sources in some categories of income, that can be used to obtain an indication of production covered by the administrative system (income taxes, social security contributions paid by self-employed persons or private entrepreneurs, etc.).
 - *commodity flow* approach: it involves balancing total supplies and uses of individual products, using accounting equations. One specific application of a commodity flow method is by calculating the output of the retail trade from supply of commodities.
2. Methods based on modelling techniques. Macro-economic models (such as monetary models, global indicator method) provide some estimation of the NOE but should be avoided. The use of available basic data is preferred. Where model based assumptions are unavoidable, they should be applied at the most detailed available level because it has been shown that the results are sensitive to data transformations, units of measurement and the sample used.

It should be noted that there is no unique standard method applied internationally; several methods or combinations of methods are usually applied, depending on the characteristics of each country.

The process of incorporating non-observed production into GDP estimates implies *complex procedures*, such as:

- Some procedures yield estimates of total production for a specific activity without separately identifying various types of non-observed activities;
- Ad hoc supplementary data are often required to make efficient use of existing sources (value added estimates can be derived from output estimates obtained from a commodity flow method using a value added/output ratio calculated from an ad-hoc study);
- Compilation should be based on detailed and specific adjustments using specific sources and known linkages and relationships;
- Where possible, alternative estimates should be derived, compared, and assessed for plausibility of results. Data relating to similar topics but from different sources should be compared and analysed to identify errors or remaining gaps.
- Assumptions underlying estimation procedures should be made explicit in calculations and reviewed regularly for their plausibility.

2. The Informal Sector

2.1 Place of the informal sector in the economy

The informal sector manifests itself in different ways in different countries, different regions within the same country, and even different parts of the same city. It encompasses different kinds of activities, different types of enterprise, and different reasons for participating. Informal activities range from street vending, shoe shining, food processing and other minor activities requiring little or no capital and skills and with marginal output, to those involving a certain amount of investment in skills and capital and with higher productivity, such as manufacturing, tailoring, car repair and mechanized transport. While some informal sector activities resemble traditional activities in handicrafts, food processing or personal services, others such as car repair, recycling of waste materials or transport, are new and arise from modernization.

Reasons for participating in the informal sector range from pure survival strategies undertaken by individuals facing a lack of (adequate) jobs, unemployment insurance or other forms of income maintenance, to the desire for independence and flexible work arrangements and, in some cases, the prospect of quite profitable income-earning opportunities, or the continuation of traditional activities.

It should be noted that the vast majority of informal sector activities provide goods and services whose production and distribution are perfectly legal (in contrast to criminal activities or illegal production). There is also a difference between the concept of the informal sector and that of the hidden or underground economy, because informal sector activities are not necessarily performed with the deliberate intention of evading the payment of taxes or social security, but to reduce production costs.

2.2 Defining the informal sector

The informal sector definition was adopted by the Fifteenth International Conference of Labour Statisticians (15th ICLS) in January 1993 and was linked to the conceptual framework of the SNA. This helps ensure compatibility with informal sector statistics and other economic and social statistics, and measurements of it are integrated in the overall economy. To be consistent with the framework of the SNA and provide separate GDP accounting for the informal sector, the definition was based on production units or enterprises rather than on employment relations. Furthermore, the informal sector was considered a sub-sector of the SNA institutional sector 'households'.

Definition

(1) The informal sector may be broadly characterized as consisting of units engaged in the production of goods or services with the primary objective of generating employment and incomes for the persons concerned. These units typically operate at a low level of organization, with little or no division between labour and capital as factors of production and on a small scale. Labour relations - where they exist - are based mostly on casual employment, kinship or personal and social relations rather than contractual arrangements with formal guarantees.

(2) Production units of the informal sector have the characteristic features of household enterprises. The fixed and other assets used do not belong to the production units as such but to their owners. The units as such cannot engage in transactions or enter into contracts with other units, nor incur liabilities, on their own behalf. The owners have to raise the necessary finance at their own risk and are personally liable, without limit, for any debts or obligations incurred in the production process. Expenditure for production is often indistinguishable from household expenditure. Similarly, capital goods such as buildings or vehicles may be used indistinguishably for business and household purposes.

Source: The SNA 2008, European Commission, IMF, OECD, UN, World Bank, 2009, Chapter XXV: Informal aspects of the economy, point 25.36.

The above definition is only an 'umbrella definition' of the informal sector, as its scope and coverage depends on national circumstances. The conditions under which these activities come into existence and the constraints under which they are undertaken confer certain characteristics on them, leading to specific criteria for determining what is meant by informal.

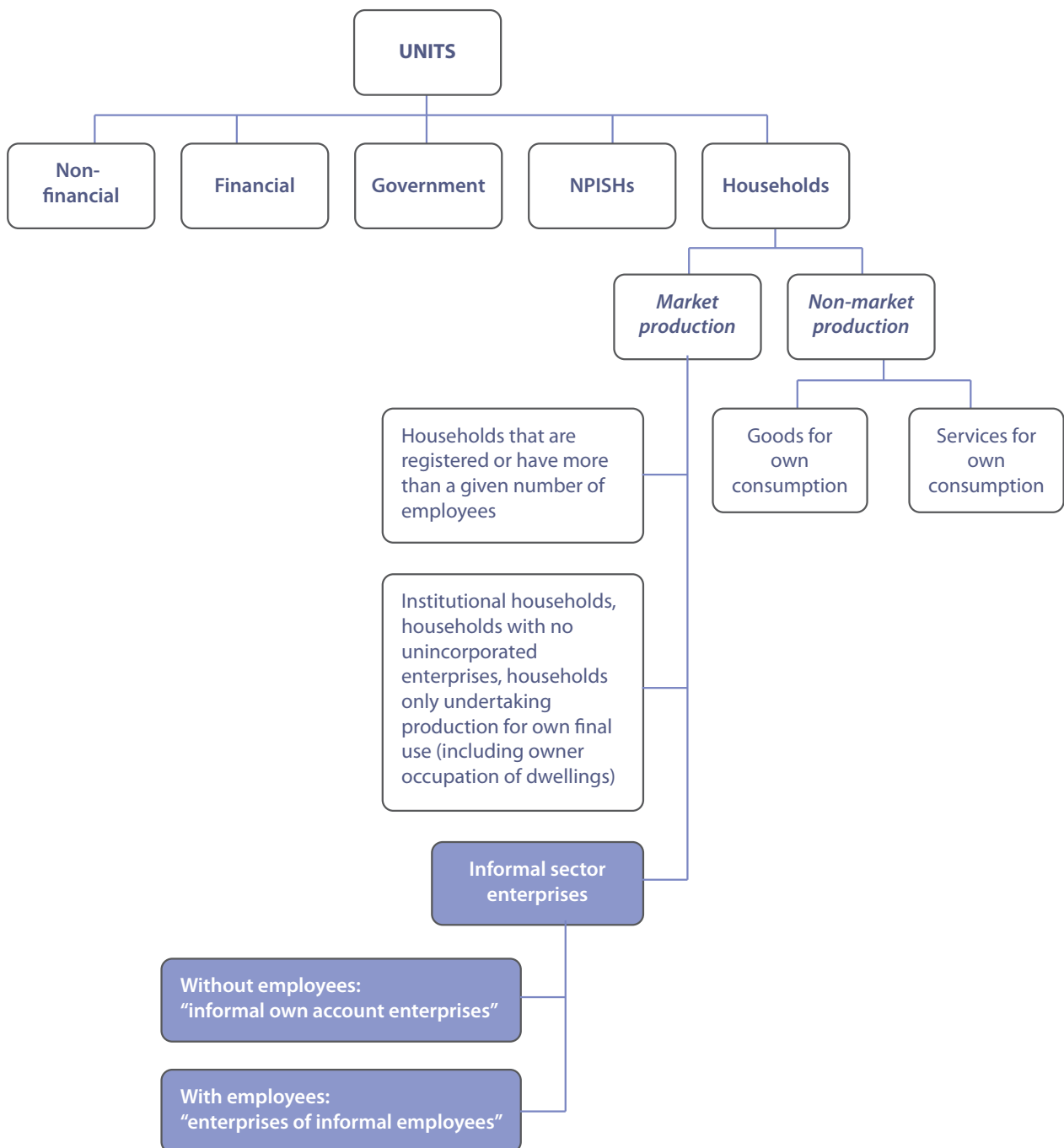
The criteria used to identify the informal sector in the SNA framework may be classified as follows:

- General essential criteria:
 - legal organization of the enterprise: unincorporated enterprise;
 - ownership of enterprise: belong to a household;
 - type of accounts: absence of separate complete accounts;
 - production destination: at least some production is destined for sale or barter, being excluded household enterprises with no market production (own-account agriculture or construction), services of paid domestic workers, services from owner-occupied dwellings.
- Additional operational criteria:
 - size limit of the enterprise: the number of employees engaged in the production is left to the country's discretion (for international reporting, countries should provide figures separately for enterprises with less than five employees);

- non-registration of enterprise and/or of employees in an enterprise within some arm of government;
- economic activity: non-agricultural activity including units mainly involved in agricultural sector and performing secondary non-agricultural activities;
- location of units: urban and rural areas.

Figure VI.2 shows the units of the informal sector in the economy.

Figure VI.2 Informal sector



Source: The 2008 SNA, European Commission, IMF, OECD, UN, World bank, 2009.

Production units are household unincorporated enterprises. Depending on types of employment involved, they are further sub-divided:

- *Informal own-account enterprises*, which basically represent household enterprises as described above, and which may employ contributing family workers and employees on an occasional basis but not employees on a continuous basis and which have the characteristics described in the definition. Informal enterprises may comprise those who are not registered as provided by specific laws or may include all own-account enterprises.
- *Enterprises of informal employers* are household enterprises that employ one or more employees on a continuous basis. Depending on the country, enterprises of informal employers are determined based on a threshold employment size and the non-registration of the enterprise or its employees. All or at least some of the goods or services produced are meant for sale or barter. In many countries, household enterprises engaged in agricultural activities are deliberately excluded, although the 15th International Conference of Labour Statisticians and SNA 2008 do not recommend this exclusion.

Box VI.2 Delhi Group on Informal Sector Statistics recommendations

The main recommendations for defining the informal sector are:

1. All countries should use the criteria of legal organization (unincorporated enterprises), type of accounts (no complete set of accounts) and product destination (at least some market output).
2. Specification of the employment size limit of the enterprise in the national definition of the informal sector is left to the country's discretion. For international reporting, however, countries should provide figures separately for enterprises with less than five employees. In the case of multiple-establishment enterprises, the size limit should apply to the largest establishment.
3. Countries using the employment size criterion should provide disaggregated figures for enterprises, which are not registered, as well as for enterprises, which are registered.
4. Countries using the criterion of non-registration should provide disaggregated figures for enterprises with less than five employees as well as for enterprises with five and more employees.
5. Countries, which include agricultural activities, should provide figures separately for agricultural and non-agricultural activities.
6. Countries should include persons engaged in professional or technical activities if they meet the criteria of the informal sector definition.
7. Countries should include paid domestic services unless these are provided by employees.
8. Countries should follow paragraph 18 of the Resolution adopted by the 15th ICLS regarding the treatment of outworkers/home workers. Countries should provide figures separately for outworkers/home workers included in the informal sector.
9. Countries covering urban as well as rural areas should provide figures separately for both urban and rural areas.
10. Countries using household surveys or mixed surveys should make an effort to cover not only persons whose main job is in the informal sector, but also those whose main job is in another sector and who have a secondary activity in the informal sector.

Source: *Measuring the Non-Observed Economy- a Handbook*, OECD, 2002.

2.3 Informal sector and Informal economy

In the extended conceptual framework, the informal economy is considered as comprising informal employment (without secure contracts, worker benefits, or social protection) both inside and outside informal enterprises:

- Informal employment in informal enterprises (small unregistered or unincorporated enterprises), including: em-

ployers, employees, own-account operators, and unpaid family workers in informal enterprises;

- Informal employment outside informal enterprises (for formal enterprises, for households, or with no fixed employer), including: domestic workers, casual or day labourers, temporary or part-time workers industrial outworkers (including home-workers), and unregistered or undeclared workers.

The informal economy consists of a wide range of informal enterprises and informal jobs. Despite its heterogeneity, there are meaningful ways of classifying its component segments:

- by type of economic unit and
- by employment status.

Informal enterprises consist of micro-enterprises (with an employer plus some employees), family businesses (with an owner operator and, sometimes, unpaid family workers) and own-account operations (with an individual owner operator). Informal employment relations consist of informal enterprise employees as well as domestic workers without a regular contract, casual day labourers without a fixed employer, temporary workers obtaining work through an agency, part-time workers for a fixed employer, industrial outworkers for formal or informal firms (and their intermediaries) and unregistered or undeclared workers. Table VI.1 presents the framework of informal employment in the economy.

Table VI.1: The conceptual framework for the informal economy

Production units by type	Jobs by status in employment									
	Own-account workers		Employers		Contributing family workers	Employees		Members of producers' cooperatives		
	Informal	Formal	Informal	Formal	Informal	Informal	Formal	Informal	Formal	
Formal sector enterprises					1	2				
Informal sector enterprises (a)	3		4		5	6	7	8		
Households (b)	9					10				

(a) As defined by the Fifteenth International Conference of Labour Statisticians in 1993

(b) Households producing goods for their own final use and households employing domestic workers.

Source: ILO, Decent Work and the Informal Economy Report VI, International Labour Conference, 90th Session, Geneva, 2002.

Table VI.1 should be read as following:

- Dark-coloured cells refer to jobs that by definition do not exist in the type of production unit in question.

- Light-coloured cells refer to jobs which exist in the type of production unit in question but which are not relevant for the informal sector.

Unshaded cells refer to types of jobs represented in the different segments of the informal economy:

Cells with numbers 1 and 5: Contributing family workers: no contract of employment and no legal or social protection arising from the job, in formal enterprises (cell 1) or informal enterprises (cell 5). Contributing family workers with a contract of employment, wage, social protection, etc. would be considered employees in formal employment.

Cells with numbers 2 and 6: Employees who have informal jobs whether employed by formal enterprises (cell 2) or informal enterprises (cell 6).

Cells with numbers 3 and 4: Own-account workers (cell 3) and employers (cell 4) who have their own informal enterprise. The informal nature of their jobs follows directly from the characteristics of the enterprise they own.

Cell with number 7: Employees working in informal enterprises but having formal jobs (this may occur, for example, when enterprises are defined as informal using size as the only criterion).

Cell with number 8: Members of informal producers' cooperatives.

Cell with number 9: Producers of goods for own final use by their household (e.g. subsistence farming).

Cell with number 10: Paid domestic workers employed by households in informal jobs.

To find out more...

The 2008 SNA, European Commission, IMF, OECD, UN, World Bank, 2009, Chapter XXV: Informal aspects of the economy, European Commission, IMF, OECD, UN, World Bank, 2009;

Measuring the Non-Observed Economy – a Handbook, OECD, IMF, ILO and CIS STAT, 2002;

Non-Observed Economy in national accounts - Survey of Country Practices, UN, 2008.

2.4 How to measure the informal sector

2.4.1 Estimation methods

Several approaches may be used to estimate activity in the informal sector. The choice or combination will depend on the objectives which range from very simple such as only having information about the evolution of number and characteristics of persons involved in the informal sector, or more complex such as obtaining detailed information about the characteristics of the enterprises involved, the main activities undertaken, number of employees, income generation, capital equipment, etc. The choice of measurement method depends upon data requirements, statistical systems organization, financial and human resources capability and user needs, especially policy makers involved in economic decision taking.

The main methods used to obtain estimates of the magnitude of the informal sector can be separated into three classes:

1. Direct methods:

Direct methods are microeconomic in nature and based on surveys or the results from tax audits used to construct estimates of total economic activity and its official and unofficial (or measured and unmeasured) components. In order to make a direct estimate of the informal sector several approaches are used:

- to conduct a special survey on the informal sector;
- to expand the coverage of the existing regular surveys, such as labour force or household surveys, with information pertaining to the informal sector;
- to carry out mixed household–enterprise surveys.

Special surveys on the informal sector, even if they are the most appropriate for data collection, are very costly and often entail sizeable financial and human resources.

2. Indirect methods:

Indirect methods are macroeconomic in nature, and combine various economic variables and a set of assumptions for producing estimates of total economic activity (that is, measured and unmeasured, official and unofficial). Hence, only the size of the informal sector may be estimated, not any other relevant information and indicators about the country, like the extent of social protection, access to education, health, credit, differences in wages and working conditions and prevalence of poverty. Indirect methods can be sub-classified as follows:

- *Discrepancy methods* that rely on differences between aggregate income and expenditure that capture the economic activity of the informal sector or between labour force and formal employment. This estimation of the informal sector based on the differences between aggregates requires having independently obtained measures of GDP using expenditure and income approaches and thus, limiting its application in practice.
- *Monetary methods* are by far the most used in the empirical literature. They are based on the assumption that hidden transactions use only cash; so, estimating the quantity of money in circulation and then taking away the incentives that induce agents into informality (usually taxes) should give a good approximation of the money used in informal activities.
- *Physical input methods* use discrepancies in electricity consumption and GDP. This method has limitations due to the assumption of a constant coefficient of use per unit of GDP which does not consider technological progress and starts its estimation from a base year in which the magnitude of the informal economy is zero or negligible (an unrealistic assumption for most countries).

3. Model approaches:

The Model approach for measuring the informal sector involves using structural equations to link unobserved variables to observed indicators and cause. The most common method is that of the Multiple Indicator–Multiple Cause (MIMIC) model that imputes a level of underlying informality from a set of presumed causes of informality on the one hand, and measurable consequences of it, on the other. Among the causes can be included taxation level, inflation, salaries, unemployment; the indicators refer to the currency in circulation and real GDP. The two main components of the model, the measurement equation and the structural equation, provide the size of the informal economy using the causes and indicators included in estimations.

The use of the model is not recommended for compiling national accounts. As ISWGNA⁽¹⁰⁾ presented, these methods suffer from serious problems that cast doubt on their utility for any purpose in which accuracy is important, such as the estimation of national accounts indicators.

2.4.2 Statistical data for estimating the informal sector

A major challenge for developing countries and economies in transition is the statistical measurement of the informal sector in respect of size, characteristics and contribution to GDP. There are not many countries that conduct regular surveys to measure employment in this sector and even fewer measure its contribution to GDP.

One of the main reasons for the lack of estimates is the limited resources of national statistical systems which do not allow for integrating regular data collection on the informal sector.

Depending on their objectives, countries use a variety of survey tools for measuring the informal sector, including independent *ad hoc* surveys, mixed household-enterprise surveys, labour force or other household surveys, enterprise/establishment surveys and economic censuses. For example, some statistical offices adopt a fragmented approach using different methods, questionnaires and reference periods in conducting *ad hoc* industry surveys of informal sector enterprises which reflect, for instance, the relative importance attached to a particular industry at a given point in time. Other countries limit their surveys to major urban areas only.

Bearing in mind that often in countries with a large informal sector resources are limited, national statistical offices should prioritize their strategic objectives for estimating the informal sector.

The first step, as for the general strategy for the SNA implementation offered in Chapter III, is that the main users of

(10) See: SNA News, Number 22/ 2006

the statistics are consulted. This consultation ensures that the data to be produced is relevant to the needs and priorities identified at national and international levels and builds support for developing statistical programmes.

The ILO guidelines on employment statistics in the informal sector and informal employment serve as a framework for defining the main measurement objectives and data requirements necessary for establishing the national data collection programme. The main data which needs to be provided with respect to the informal sector refer to:

- i. the number of persons engaged in informal sector units by employment status and kind of economic activity and
- ii. the number of informal sector enterprises by kind of economic activity and by type (i.e. informal own-account enterprises, informal employer enterprises).

The second step of the strategy refers to establishing the approach for collecting data and defining the main indicators to be estimated. The various survey approaches used are:

1. Household surveys

These surveys including labour force surveys (LFS) and household income and expenditure surveys. They are the best data collection tools if the objective is to monitor the evolution of informal sector employment and informal employment in terms of the number and characteristics of the persons involved and the conditions of their employment and work. For this purpose, questions pertaining to the definition of the informal sector can be incorporated into LFS survey questionnaires and asked in respect of all persons employed during the survey reference period, irrespective of their employment status. A household income and expenditure survey provides information about household demand for goods and services produced in the informal sector.

However this method, not being an appropriate source of information for estimating the total number of informal sector enterprises, is limited as far as disaggregation by industry, estimation of the total demand for informal production and other economic characteristics are concerned.

2. Enterprise survey

The most suitable approach for data collection when the objective is to monitor the number and characteristics of the informal sector units is to use enterprise and establishment surveys. These types of surveys provide reliable information on different aspects, such as: the number and characteristics of the businesses involved; their production activities, income generation, and fixed capital; the conditions and constraints under which they operate; their organizations and relationships with the formal sector, etc.

However, an enterprise survey fails to capture the diversity and mobility of informal sector activities as they do not cover households.

A crucial aspect underlying the quality of the statistics produced by informal sector enterprise surveys is the framework used to select the survey sample, particularly how complete and up-to-date it is. A business register can usually be used, when one exists, although in general it does not cover informal sector enterprises. An establishment census offers an alternative, even if it represents an 'upper' frame for the informal sector, especially for 'identifiable' establishments. However, constraints in using such data sources are: high costs, possible overlaps, failure to capture enterprises such as in-home food processing, ambulant trade, construction, etc. For these reasons, countries considering the possibility of establishing a regular statistical programme for the informal sector based on this approach need to plan early on how the approach would fit within the overall data collection schedule and with the financial and human resources available.

3. Mixed household and enterprise surveys

This approach includes:

- *The modular approach: informal sector attached to household survey.* In this case, a special questionnaire for evaluating the informal sector is attached to the existing LFS or household survey and the two surveys can be conducted simultaneous or, more usefully, subsequently (first the household survey and then the informal sector survey). This approach permits monitoring of trends in the informal sector over time, if the base survey (the household survey) is conducted regularly and an informal sector module is attached at sufficiently frequent intervals.
- *The stand-alone approach: informal sector survey designed as an independent survey* represents a better option from a technical point of view because its sample can be specifically designed and selected to meet the set requirements (for example by branch of activity). The use of this approach is based on a multi-stage design involving the following steps: (i) selection of areas (census enumeration areas) as primary sampling units; (ii) listing or interviewing of all households in the sample areas; (iii) selection of sample households with owners of informal sector enterprises (household unincorporated enterprises with some market production) and (iv) interview of sample householders and enterprise owners. The advantages in the quality of the results obtained using this approach must be balanced against the complexity of the survey and operations required (sample design, estimation procedures, qualified survey staff, sound training of interviewers, etc.).

- *Integrated approach: informal sector surveys as part of a survey system designed to meet several objectives.* These are seen as special types of modular surveys. They are designed to meet several measurement objectives at the same time, such as data collection for the informal sector, labour force characteristics, household income and expenditure, etc. For this reason, this approach is especially useful for countries that do not have a regular household survey to which an informal sector survey can be attached. These surveys are based on a sample in which the number of households with informal sector enterprises is extended as much as possible in order to obtain a larger representation of the various types of informal sector.

Box VI.3: Examples of informal sector surveys

The annual figures on the size and structure of the informal sector in Thailand and some Latin American countries are taken from labour force surveys. Labour force surveys are already proven data sources for the informal sector, but there are some doubts whether these surveys correctly capture the characteristics of the enterprise which may not known by those respondents who are only workers in the informal establishment. Similarly, household income and expenditure survey (HIES) can help identify informal sector activity through the sources of income data items, but the standard HIES questionnaire gathers little information on the type of enterprise and other characteristics of the informal sector unit. Questions relating to main and secondary jobs, working conditions of family members and other questions pertaining to the household's informal sector activities can be inserted into the questionnaire to determine the employment rate in the informal sector and number and characteristics of individuals employed in the informal sector.

Source: *How Can We Measure The Informal Sector?* Dalisay S. Maligalig and Margarita F. Guerrero, 2008.

Box VI.4: Number of surveys on the informal sector across countries and data collection methods

Type of survey	Region				Total
	Africa	Asia & Pacific	Latin America	Economies in transition	
Mixed survey	15	2	4	1	22
Labour Force Survey	8	6	14	5	33
Households survey	11	–	5	2	18
Establishment censuses and survey	11	4	–	–	15
Total	45	12	23	8	88

Source: *Informal sector: Statistical definition and Measurement issues*, P. Gennari, paper presented to the OECD/UNESCAP/ADB workshop, 2004, Bangkok.

The different approaches presented highlight the diversity in scope and coverage of the various informal sector surveys, which complicates their comparability across countries and over time (see Box VI.4). At the same time, flexibility in criteria adaptation is an important characteristic for measuring the informal sector given its unique economic structure and policy interests in each country. Bearing in mind the need for flexibility and international comparability of the dynamics and structure of the informal sector, the best approach is the Fully Integrated Rational Survey Technique (FIRST) methodology. This approach is based on a modified mixed household-enterprise survey integrated into a comprehensive data collection programme on economic statistics. However, its application requires financial and human resources and is difficult to conduct on a regular basis.

Addressing these critical issues in data collection on the informal sector, the *Interregional Cooperation on the Measurement of Informal Sector and Informal Employment (ICMISIE)*⁽¹¹⁾ project proposed the '1-2' survey, which is a specific kind of mixed household- enterprise survey.

To find out more...

The '1-2' Survey: A data collection strategy for informal sector and informal employment statistics, Pietro Gennari, Margarita F Guerrero, Zeynep Orhun (United Nations ESCAP Statistics Division) Ivo Havinga, Gulab Singh (United Nations Statistics Division/Department of Economic and Social Affairs), April 2009;

Documents of the *Workshop on Informal Employment and Informal Sector Data Collection Strategy, Tools, and Advocacy*, organized by ESCAP in Bangkok, 2007, available at: <http://www.unescap.org/stat/isie/ws-isie1/index.asp>

The '1-2' survey utilizes the LFS in the first phase as a tool for collecting information on informal employment and some of the required informal sector data items. Each individual respondent in the LFS will be asked about his/her main and second jobs so that Household Unincorporated Enterprises with at least some Market production (HUEMs) can be identified. In this way, the data collected through the LFS construct the sample frame for the second phase, which is an enterprise survey for household unincorporated enterprises with at least some market production (HUEMs) as a statistical unit. The HUEMs survey collects data on production in line with international recommendations on industry, construction trade, and services statistics.

(11) ICMISIE is a multiyear and multilateral development account project of the United Nations, with the Economic and Social Commission for Asia and the Pacific as lead agency, whose objectives is to increase the availability of data on the informal sector and informal employment and to improve the calculation of the informal sector contribution to employment and GDP.

To find out more...

A generic HUEMs survey questionnaire is presented in the ESCAP papers: *Phase 1 of '1-2' survey and Phase 2 of '1-2' survey*, presented to the *Workshop on Informal Employment and Informal Sector Data Collection Strategy, Tools, and Advocacy*, Bangkok, 2007.

The '1-2' survey can be successfully used by developing countries with limited budgets for data collection but with a large informal sector impacting on the development of their economies. They can conduct the survey once a year; while the HUEM survey may not be conducted annually, LFS surveys will gather information on informal employment that may be used for identifying informal enterprises. In this way, the informal sector's contribution to GDP can be fully integrated into the national accounts data compilation framework.

2.5. Concluding remarks

The informal sector represents an important part of developing economies, and governments and international organizations are focussing their attention on understanding what proportion it represents, why it exists and how it operates so as to take adequate measures to reduce it. Measuring it is an important challenge for developing countries.

The SNA implementation strategy will take the informal sector into account when the compilation of national accounts is well established by using the main phases presented in Chapter III. Information about size and characteristics of the informal sector must be obtained in order to help decision-makers take pertinent measures aimed at improving a country's welfare and reinforcing the important role of national accounts within the statistical system.

2.5.1 Questions for practitioners

The building of the informal sector estimation strategy may be based on the following issues:

- Defining the meaning of the informal sector and identifying its components;
- Deciding the best applicable criteria for defining the informal sector;
- How big and important is the informal sector in the country?
- What are the available data sources that could be used for estimating it and what new surveys must be implemented in the statistical system?

3. Recommended reading

- *The 2008 SNA*, European Commission, IMF, OECD, UN, World Bank, 2009, Chapter XXV: Informal aspects of the economy;
- *Measuring the Non-Observed Economy, a Handbook*, OECD, 2002;
- *Non-Observed Economy in national accounts- Survey of Country Practices*, UN, 2008;
- *Women and men in the informal economy- A statistical picture*, International Labour Office (ILO) 2002;
- *Eurostat's Tabular Approach to Exhaustiveness- Guidelines*, Eurostat 2005;
- *Measuring the informal economy: from employment in the informal sector to informal employment*, Ralf Haussmanns, working paper no.53, International Labour Office (ILO) 2004;
- *Measuring the size of the informal sector*, www.worldbank.org;
- *Guide méthodologique pour l'élaboration des comptes nationaux dans les états membre d'Afristat*, Afristat, Série Méthodes no.4, 2001; Chapter II-V: La prise en compte du secteur informel dans les travaux de comptabilité nationale;
- *Household Accounting: experience in concepts and compilation*, Studies in Methods, Series F no 75/vol.1, UN 2000, Chapter II: The informal sector as part of the household sector.
- *How Can We Measure the Informal Sector?*, Dalisay S. Maligalig and Margarita F. Guerrero, paper will be presented at the Philippine Statistical Association, Inc. mid-year conference at the Ople Hall, Department of Labour and Employment, Intramuros, Manila, on 6 June 2008;
- Papers presented to the International Seminar on Informal Sector, organized by AFRISTAT, Mali, 2008 available at http://www.afristat.org/index.php?option=com_content&view=article&id=204&catid=64
- *Modelling the informal economy in Mexico ; A Structural Equation Approach*, Bramhla Macis J., MPRA paper No.8504, 2008;
- *The '1-2' Survey: A data collection strategy for informal sector and informal employment statistics*, Pietro Gennari, Margarita F Guerrero, Zeynep Orhun (United Nations ESCAP Statistics Division) Ivo Havinga, Gulab Singh (United Nations Statistics Division/Department of Economic and Social Affairs), April 2009, http://www.unescap.org/stat/isie/project-resources/index.asp#workshop_materials;
- *Comprehensive Measures of GDP and the Unrecorded Economy*, Adrian Bloem and Manik Shrestha, IMF Working Paper No. 00/204, December 2000;
- *Strategies for Measuring Industrial Structure and Growth*, Studies in methods, Serie F, No.65, UN 1994.

Annex 1

Milestones for National Accounts implementation

Phase of implementation	General description	National accounts indicators	Phase of implementation	SNA related data and development
Pre-SNA phases	Basic data (production etc)		Basic data (production etc.) -Balance of Payments (BOP) of goods and services; - Monetary stock statistics - Price indices (consumer, producer, wholesale)	
Phase 1	Basic indicators of GDP at current and constant prices	- Final expenditures on GDP; - GDP by industry	-Supply and Use worksheets ; -Other BOP transactions (income transfers, capital and financial); -Government Financial Statistics (GFS) transaction accounts.	
Phase 2	GNI and other primary indicators	External account of primary income and current transfers; -Capital and financial accounts for the rest of the world	- Capital stock statistics; - BOP stock statistics; -GFS stock statistics; -Monetary and other financial flow statistics.	- Quarterly National Accounts (QNA); - Regional accounts; - Satellite accounts for environment and other country priority for satellite accounts; - Input-output analysis
Phase 3	Institutional sector accounts: first steps	- Production account for all institutional sectors; -Generation of income; - Allocation of primary income; - Secondary distribution income; - Use of incomes; - Capital accounts and financial accounts for general government	Same as for phase 2	Same as for phase 2
Phase 4	Institutional sector accounts: intermediate steps	- Generation of income; - Allocation of primary income; - Secondary distribution income; - Use of incomes; - Capital accounts for all institutional sectors other than government	Same as for phase 2	Same as for phase 2
Phase 5	Institutional sector accounts: last of the transactions	Financial accounts for all institutional sectors other than general government accounts.	Same as for phase 2	Same as for phase 2
Phase 6	Other flows, accounts and balance sheets	-Other changes in assets accounts for all institutional sectors; -Balance sheets	Same as for phase 2	Same as for phase 2

Annex 2

Classification of transactions

Transactions in products (P)

P1	Output
P11	Market output
P119	Financial intermediation services indirectly measured (FISIM)
P12	Output for own final use
P13	Non-market output
P2	Intermediate consumption
P3	Final consumption expenditure
P31	Individual consumption expenditure
P32	Collective consumption expenditure
P4	Actual final consumption
P41	Actual individual consumption
P42	Actual collective consumption
P5	Gross capital formation / P.5n Net capital formation
P51g	Gross fixed capital formation
P51c	Consumption of fixed capital (-)
P51c1	Consumption of fixed capital on gross operating surplus (-)
P51c2	Consumption of fixed capital on gross mixed income (-)
P51n	Net fixed capital formation
P511	Acquisitions less disposals of fixed assets
P5111	<i>Acquisitions of new fixed assets</i>
P5112	<i>Acquisitions of existing fixed assets</i>
P5113	<i>Disposals of existing fixed assets</i>
P512	Costs of ownership transfer on non-produced assets
P52	Changes in inventories
P53	Acquisitions less disposals of valuables
P6	Exports of goods and services
P61	Exports of goods
P62	Exports of services
P7	Imports of goods and services
P71	Imports of goods
P72	Imports of services

Distributive transactions (D)

D1	Compensation of employees
D11	Wages and salaries
D12	Employers' social contributions
D121	Employers' actual social contributions
<i>D1211</i>	<i>Employers' actual pension contributions</i>
<i>D1212</i>	<i>Employers' actual non-pension contributions</i>
D122	Employers' imputed social contributions
<i>D1221</i>	<i>Employers' imputed pension contributions</i>
<i>D1222</i>	<i>Employers' imputed non-pension contributions</i>
D2	Taxes on production and imports
D21	Taxes on products
D211	Value added type taxes (VAT)
D212	Taxes and duties on imports excluding VAT
<i>D2121</i>	<i>Import duties</i>
<i>D2122</i>	<i>Taxes on imports excluding VAT and duties</i>
D213	Export taxes
D214	Taxes on products except VAT, import and export taxes
D29	Other taxes on production
D3	Subsidies
D31	Subsidies on products
D311	Import subsidies
D312	Export subsidies
D319	Other subsidies on products
D39	Other subsidies on production
D4	Property income
D41	Interest
D42	Distributed income of corporations
D421	Dividends
D422	Withdrawals from income of quasi-corporations
D43	Reinvested earnings on direct foreign investment
D44	Other investment income
D441	Investment income attributable to insurance policy holders
D442	Investment income payable on pension entitlements D443
D443	Investment income attributable to collective investment funds shareholders
D45	Rent

Current transfers in cash and kind (D.5-D.8)

D5	Current taxes on income, wealth, etc.
D51	Taxes on income
D59	Other current taxes
D6	Social contributions and benefits
D61	Net social contributions
D611 = D121	Employers' actual social contributions
<i>D6111 = D1211</i>	<i>Employers' actual pension contributions</i>
<i>D6112 = D1212</i>	<i>Employers' actual non-pension contributions</i>
D612 = D122	Employers' imputed social contributions
<i>D6121 = D1221</i>	<i>Employers' imputed pension contributions</i>
<i>D6122 = D1222</i>	<i>Employers' imputed non-pension contributions</i>
D613	Household actual social contributions
<i>D6131</i>	<i>Household actual pension contributions</i>
<i>D6132</i>	<i>Household actual non-pension contributions</i>
D614	Household social contribution supplements
<i>D6141</i>	<i>Household pension contribution supplements</i>
<i>D6142</i>	<i>Household non-pension contribution supplements</i>
	Social insurance scheme service charges (-)
D62	Social benefits other than social transfers in kind
D621	Social security benefits in cash
<i>D6211</i>	<i>Social security pension benefits in cash</i>
<i>D6212</i>	<i>Social security non-pension benefits in cash</i>
D622	Other social insurance benefits
<i>D6221</i>	<i>Other social insurance pension benefits</i>
<i>D6222</i>	<i>Other social insurance non-pension benefits</i>
D623	Social assistance benefits in cash
D63	Social transfers in kind
D631	Social transfers in kind - non-market production
D632	Social transfers in kind - purchased market production
D7	Other current transfers
D71	Net non-life insurance premiums
D711	Net non-life direct insurance premiums
D712	Net non-life re-insurance premiums
D72	Non-life insurance claims
D721	Non-life direct insurance claims
D722	Non-life re-insurance claims
D73	Current transfers within general government
D74	Current international cooperation
D75	Miscellaneous current transfers
D751	Current transfers to NPISHs
D752	Current transfers between resident and non-resident households
D759	Other miscellaneous current transfers
D8	Adjustment for the change in pension entitlements

D9	Capital transfers
D9r	Capital transfers, receivable
D91r	Capital taxes, receivable
D92r	Investment grants, receivable
D99r	Other capital transfers, receivable
D9p	Capital transfers, payable
D91p	Capital taxes, payable
D92p	Investment grants, payable
D99p	Other capital transfers, payable

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