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Public Sector Debt Statistics

Guide for Compilers and Users



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“Public sector debt statistics : guide for compilers and users provides guidance on (1) concepts, definitions, and classifications of public sector debt statistics, (2) the sources and techniques for compiling these data, and (3) some analytical tools that may be used to analyze these statistics”—Pref.

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Foreword

This volume, *Public Sector Debt Statistics: Guide for Compilers and Users* (the *Guide*), is the first global guide on public sector debt statistics. Like the *External Debt Statistics: Guide for Compilers and Users*, this *Guide* has been prepared under the joint responsibility of nine organizations, through the mechanism of the Inter-Agency Task Force on Finance Statistics (TFFS). The preparation of the *Guide* was based on the broad range of experience of our institutions and benefited from consultation with national compilers of government finance and public sector debt statistics.

The international financial crisis in recent years, and the associated large fiscal deficits and debt levels in many countries, underscored the importance of reliable and timely statistics on general government and, more broadly, public sector debt as a critical element in countries' fiscal and possibly external sustainability. Against this background, the focus of this *Guide* is on improving the quality and timeliness of these key debt statistics and promoting a convergence of recording practices. This *Guide* is a useful source of reference for national compilers and users, and we recommend its adoption by countries when compiling and disseminating these data.

The concepts set out in the *Guide* are harmonized with those of the *System of National Accounts 2008 (2008 SNA)* and the *Balance of Payments and International Investment Position Manual, Sixth Edition (BPM6)*. The same classifications and definitions will be used in the forthcoming revision *Government Finance Statistics Manual*, but differ in minor ways from the current edition, *Government Finance Statistics Manual 2001 (GFSM 2001)*.

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Preface

The need for comprehensive, internationally comparable, and reliable information on debt of the general government and, more broadly, the public sector to inform policymakers, financial markets, and other users of statistics has long been recognized. The need for improving the availability and international comparability of general government and public sector debt statistics was once again reinforced by the international financial crisis that started in 2007. Because they carry obligations to make future payments, debt liabilities have the potential to create circumstances that render not only government and public corporations, but also the entire economy, vulnerable to solvency and liquidity problems. Moreover, as experience has shown, these vulnerabilities can have widespread economic costs, and not just for the initially affected economy. To this end, the *Public Sector Debt Statistics: Guide for Compilers and Users* (the *Guide*) provides guidance on (1) the concepts, definitions, and classifications of public sector debt statistics; (2) the sources and techniques for compiling these data; and (3) some analytical tools that may be used to analyze these statistics. The *Guide* is intended for compilers and users of public sector debt statistics.

Background

The definition of debt in the *Government Finance Statistics Manual 2001 (GFSM 2001)*, which is based on the *System of National Accounts, 1993*, is consistent with that in other macroeconomic statistical systems. The *GFSM 2001* expanded the focus to the entire balance sheet, along with the flows that affect assets and liabilities. This *Guide* provides, therefore, the first internationally accepted comprehensive guidance for the compilation and dissemination of debt statistics covering the public sector (i.e., government and public corporations). It complements the *External Debt Statistics: Guide for Compilers and Users*.

This *Guide* provides a comprehensive conceptual framework for the measurement of gross and net debt of the public sector and all of its components. This guidance can be applied across the different components of the public sector and across various liabilities that constitute public sector debt. The *Guide* provides a structure for classifying debt liabilities by instrument and by sector of the counterpart to the debt instrument. The *Guide* also advises on practical problems in recording public sector debt, including numerical examples.

To present debt statistics for the general government and, more broadly, the public sector, in a transparent and comprehensive manner to users, this *Guide* proposes a core set of tables, which are grouped into two summary tables, five detailed tables, and six memorandum tables. Specific country circumstances can be accommodated by expanding some of the tables to include additional information, or by providing the relevant information in additional tables. This *Guide* includes an overview of the main considerations in the data collection, compilation, and dissemination of debt statistics for the public sector and its

components. It addresses the often difficult issue of identifying the holders of traded debt securities, and discusses approaches to consolidation of public sector debt statistics. The *Guide* offers an overview of some tools used in the analysis of public sector debt statistics. The work of international agencies in the field of general government and public sector debt statistics is outlined.

The *Guide* is primarily intended to serve as a reference for compilers and users of public sector debt statistics. We hope that this *Guide* will contribute to more accurate and more internationally comparable general government and, more broadly, public sector debt statistics and an improved understanding of the complex issues involved.

Acknowledgments

The production of the *Guide* has been jointly undertaken by the international agencies that participate in the Inter-Agency Task Force on Finance Statistics (TFFS), in consultation with national compilers of public sector debt and government finance statistics. The TFFS is one of the interagency task forces formed under the aegis of the United Nations Statistical Commission and the Administrative Committee on Coordination/Sub-Committee on Statistical Activities. The TFFS is chaired by the IMF, and the work on the *Guide* involved representatives from the BIS, the Commonwealth Secretariat, the European Central Bank (ECB), the Statistical Office of the European Communities (Eurostat), the IMF, the OECD, the Paris Club Secretariat, the United Nations Conference on Trade and Development (UNCTAD), and the World Bank. The core participants in the TFFS's work on the *Guide* are listed below (affiliations are those in effect during the time of preparation of the *Guide*). Their expert contributions and comments made possible the production of the *Guide*.

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The preparation of this *Guide* was primarily undertaken in the IMF (affiliations are those in effect during the time of preparation of the *Guide*). Mr. Tobias (Murto) Wickens (Senior Economist, Government Finance Division, Statistics Department) was the primary drafter and also coordinated and edited the contributions of TFSS participants, national agencies, and other experts. The work was supervised by Mr. Robert Heath (Assistant Director, Statistics Department), Mr. Keith Dublin (Chief, Government Finance Division, Statistics Department, until 2008), Ms. Claudia Dziobek (Chief, Government Finance Division, Statistics Department, 2008 –), and Mr. Robert Dippelsman (Deputy Chief, Government Finance Division, Statistics Department). Many staff in the Government Finance Division (in particular, Mrs. Sagé de Clerck and Mr. Gary Jones, Senior Economists, and Mr. Miguel Alves and Ms. Majdeline El Rayess, Economists), the Balance of Payments Division (Mr. Eduardo Valdivia-Velarde, Deputy Chief; Mr. Jean Galand, Senior Economist; and Ms. Rita Mesias, Senior Economist), and other divisions of the Statistics Department contributed to the project.

Staff from other IMF departments also contributed. In particular, from the Fiscal Affairs Department: Ms. Adrienne Cheasty (Senior Advisor), Mr. John Gardner (Technical Assistance Advisor), Mr. Tim Irwin (Technical Assistance Advisor), Mr. Abdul Khan (Senior Economist), Mr. Edouard Martin (Senior Economist), Ms. Isabel Rial (Senior Economist); from the Finance Department: Mr. George Kabwe (Deputy Division Chief), Mr. Barry Yuen (Deputy Division Chief), and Mr. Carlos Janada (Senior Economist); from the Monetary and Capital Markets Department: Mr. Udaibir Das (Assistant Director), Mr. Christian Mulder (Deputy Division Chief), Ms. Allison Holland (Senior Finance Sector Expert), Mr. Guilherme Pedras (Technical Assistance Advisor); from the Strategy, Policy, and Review Department: Mr. Dominique Desruelle (Assistant Director), Mr. Hervé Joly (Division Chief), Mr. Birgir Arnason and Mr. Andrew Kitili (Senior Economists), and Mr. Kenji Hosono (Economist).

The *Guide* also benefited from written contributions of other experts in the participating agencies; in particular:

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World Bank Ms. Evis Rucaj, Statistical Officer, Financial Data Team, Development Data Group.

The TFSS acknowledges, with gratitude, the contributions of many compilers and users of public sector debt statistics in member countries, in particular: Australia, Brazil, Canada, Italy, Romania, South Africa, Turkey, and the United Kingdom. Responses to requests for comments on the draft *Guide* posted on the TFSS Web site in August 2010 came from many official agencies in countries across the world and the text greatly benefited from these views.

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Introduction

A. Purpose and Focus of the Guide

1.1 The **purpose** of the *Public Sector Debt Statistics—Guide for Compilers and Users* (the *Guide*) is to provide comprehensive guidance for the measurement and presentation of public sector debt statistics.

1.2 The primary **focus** of this *Guide* is on **gross and net debt liabilities** of a public sector unit because:

- Usually, statistical development of a balance sheet concentrates first on debt liabilities, then financial assets in the form of debt instruments, and later moves to incorporate nondebt liabilities and other assets; and
- A particular interest exists with policymakers and analysts in public sector units' gross and net debt.¹

1.3 Nonetheless, of interest for policymakers and analysts is also the size and composition of a public sector unit's liabilities and financial assets, including nondebt instruments.² Further, the integration of stock positions and the various types of economic flows, as presented in the *Government Finance Statistics Manual (GFSM)*, facilitates a comprehensive assessment of the economic impact of a public sector unit's activities and the sustainability of its policies.

1.4 This *Guide* also provides advice on the compilation of public sector debt statistics and on their analytical use. The intention is to contribute to an improvement in, and a greater understanding of, public sector debt statistics. In doing so, the *Guide* is responding to widespread policy and user interest in

¹This *Guide* recognizes the importance of a broader focus than debt liabilities for specific purposes of analyses of public sector finances. A broader analysis will also consider, for example, nondebt instruments (such as financial derivatives), explicit contingent liabilities (such as guarantees provided by government), or even implicit contingent liabilities (such as government obligations for future social security benefits). Nondebt instruments and contingent liabilities are also discussed in this *Guide*.

²These concepts are defined in Chapters 2 and 3.

improving the availability and international comparability of public sector debt statistics.

B. Conceptual Framework

1.5 This *Guide* provides a conceptual framework for compiling public sector debt statistics. The framework is derived from the *System of National Accounts 2008 (2008 SNA)* and the *Balance of Payments and International Investment Position Manual, Sixth Edition (BPM6)*. The same classifications and definitions will be used in the forthcoming revision *GFSM*, but differ in minor ways from the current edition, *Government Finance Statistics Manual 2001 (GFSM 2001)*. Under this conceptual framework, public sector debt includes all liabilities of public sector units (as defined in the *2008 SNA*) excluding equity and investment fund shares and financial derivatives and employee stock options. The total amount of these debt liabilities is presented as the gross debt position of the public sector unit(s) for which the statistics are compiled.

C. Structure of the Guide

1.6 The *Guide* may be divided into four parts:

- Conceptual framework—Chapters 2–5;
- Compilation principles and practices—Chapters 6–8;
- Some analytical tools for public sector debt analysis—Chapter 9; and
- Work of international agencies in the area of public sector debt statistics—Chapter 10.

1.7 The structure of the part covering the conceptual framework is as follows:

- Chapter 2 provides a definition of gross and net debt. Using the definitions of institutional units and sectors, this chapter defines the public sector and its subsectors. This chapter also explains, in detail, the accounting principles required for the measurement of public sector debt.
- Chapter 3 defines debt instruments as well as the institutional sector of the counterparties to the debt instruments.
- Chapter 4 deals with several issues in public sector debt statistics. It provides definitions of several kinds of debt operations, and guidance on the statistical treatment of each of them.
- Chapter 5 provides tables for the presentation of public sector debt statistics: two summary tables, five detailed tables, and six memorandum tables. Together, the statistics in these tables provide a comprehensive view of public sector debt statistics in a country.

1.8 The structure of the part covering compilation principles and practices is as follows:

- Chapter 6 provides an overview of the main considerations in the compilation and dissemination of public sector debt statistics, including the main data sources for the various debt instruments.
- Chapter 7 provides guidance on the identification of the holders of traded debt securities.
- Chapter 8 provides practical guidance on the consolidation of public sector debt statistics, i.e., the elimination of inter- and intrasectoral stock positions among the units for which the statistics are compiled.

1.9 Chapter 9 covers some of the analytical tools used in public sector debt analysis. This chapter is included to help compilers place their work in context and to illustrate to some of the main uses of public sector debt statistics in the IMF's work. Chapter 10 sets out the work in the area of public sector debt statistics of the BIS, Commonwealth Secretariat, ECB, Eurostat, IMF, OECD, Paris Club Secretariat, UNCTAD, and the World Bank.

1.10 The *Guide* includes three appendices: the first appendix deals with the relationship between public sector debt statistics and external debt statistics; the second with the relationship between flows and stock positions in public sector debt statistics; and the third provides a glossary of terms used in this *Guide*.

Definitions and Accounting Principles

This chapter defines debt concepts relating to the public sector, and discusses core accounting principles in the compilation of public sector debt statistics.

A. Introduction

2.1 This chapter defines debt and institutional sectors of an economy. These definitions are essential to developing a conceptual framework and providing practical guidance on compiling debt statistics. The classifications and definitions used in this *Guide* are harmonized with the *System of National Accounts 2008 (2008 SNA)* and the *Balance of Payments and International Investment Position Manual, Sixth Edition (BPM6)*. The same classifications and definitions will be used in the forthcoming revised *Government Finance Statistics Manual*, but differ in minor ways from the current edition, *Government Finance Statistics Manual 2001 (GFSM 2001)*.

2.2 Section B defines the two main debt concepts: gross debt and net debt. Sections C and D define the public sector, its institutional coverage, and its sectorization. The definitions of debt, together with the definitions of the public sector and its subsectors, allow for defining debt for the public sector and any of its subsectors. The last section of this chapter discusses the accounting principles underlying the compilation of public sector debt statistics. These principles are in conformity with the other macroeconomic statistics. The annex to this chapter discusses the accrual of interest and its impact on debt.

B. Definitions of Debt

I. Gross debt

2.3 *Total gross debt—often referred to as “total debt” or “total debt liabilities”—consists of all liabilities*

*that are debt instruments.*¹ *A debt instrument is defined as a financial claim that requires payment(s) of interest and/or principal by the debtor to the creditor at a date, or dates, in the future.*² The following instruments are debt instruments:

- Special drawing rights (SDRs);
- Currency and deposits;
- Debt securities;
- Loans;
- Insurance, pension, and standardized guarantee schemes; and
- Other accounts payable.

2.4 From the above list follows that all liabilities included in the *Government Finance Statistics Manual (GFSM)* balance sheet are considered debt, except for liabilities in the form of equity and investment fund shares and financial derivatives and employee stock options.

2.5 *Debt liabilities owed by residents to residents of same economy are domestic debt, and debt liabilities owed by residents to nonresidents are external debt.* The definition of residence is explained in more detail later in this chapter and follows the current international standards (the *2008 SNA* and *BPM6*). The relationship between public sector debt and external debt statistics is explained in Appendix 1 of this *Guide*.

2.6 Equity and investment fund shares are not debt instruments because they do not require the payment of principal or interest and, therefore, have different

¹The various debt instruments are discussed in detail in Chapter 3 of this *Guide*.

²This definition of debt is consistent with the definition of debt in the *Government Finance Statistics Manual (GFSM)*, *System of National Accounts 2008 (2008 SNA)*, *Balance of Payments and International Investment Position Manual, Sixth Edition (BPM6)*, and *External Debt Statistics: Guide for Compilers and Users*.

implications for vulnerability and liquidity. For the same reason, financial derivatives—both forwards and options—are not debt liabilities because no principal is advanced that is required to be repaid, and no interest accrues on any financial derivative instrument.³ In Chapter 5, this *Guide* recommends to compile and disseminate data on financial derivatives positions as a memorandum to public sector debt statistics. Such information is useful because these contracts can add to a public sector unit's liabilities and, if used inappropriately, cause significant losses.⁴

2.7 Due to specific legal, institutional, and practical arrangements, some definitions of debt other than the above may also exist. It is therefore useful to **always clearly identify the definition of debt according to the instruments included**. Total debt in this *Guide* covers all debt instruments specified in paragraph 2.3, but narrower definitions are sometimes presented, including:

- only currency and deposits, debt securities, and loans—a narrow definition confined to instruments traditionally used to “raise funds”; and
- all debt instruments except insurance, pension, and standardized guarantee schemes—a broader definition close to total debt that primarily excludes pension liabilities.

a. Outstanding and actual current liabilities

2.8 For a liability to be considered debt it must exist and be outstanding.⁵ The decisive consideration is whether a creditor has a claim on the debtor. Debt liabilities are typically established through the provision of economic value by one institutional unit, the creditor, to another, the debtor, normally under a contractual arrangement. Debt liabilities can also be created by the force of law,⁶ and by events that require future transfer payments.⁷ Debt liabilities include arrears of principal and interest. Commitments to provide economic value in the future do not establish debt liabilities until items change ownership, services are rendered, or income

³Off-market swaps do have a debt component, as outlined in Chapter 4.

⁴See Chapter 5, paragraphs 5.50–5.52.

⁵See Chapter 3, paragraphs 3.5–3.12 for a more detailed discussion of liabilities and financial assets.

⁶These liabilities could include those arising from taxes, penalties (including penalties arising from commercial contracts), and judicial awards at the time they are imposed.

⁷These include claims on nonlife insurance companies, claims for damages not involving nonlife insurance companies, and claims arising from lottery and gambling activity.

accrues; for example, amounts yet to be disbursed under a loan or export credit commitment are not to be included in the gross debt position.

2.9 Contingencies are conditions that may affect the financial performance of public sector units, depending on the occurrence, or nonoccurrence, of one or more future events. Contingencies, such as the granting of most one-off guarantees,⁸ **are not included in the debt of the guarantor** because they are not unconditional liabilities. Guaranteed debt continues to be attributed to the debtor, not the guarantor, unless and until the guarantee is called. However, for purposes of vulnerability analysis, the potential impact of contingent liabilities on public sector units matters. Therefore, while contingencies are excluded from the definition of debt of the guarantor, the value of specific contingent liabilities may be shown as a memorandum item in public sector debt statistics. This *Guide* encourages countries to set up systems to monitor and disseminate data on contingent liabilities, as is discussed in more detail in Chapter 4.⁹

b. Principal and interest

2.10 *The provision of economic value by the creditor, or the creation of debt liabilities through other means, establishes a principal liability for the debtor, which, until extinguished, may change in value over time.* Interest is the cost (expense) that the debtor incurs for the use of the principal outstanding.¹⁰ Thus, *interest is a form of investment income that is receivable by the owners of certain kinds of financial assets (SDRs, deposits, debt securities, loans, and other accounts receivable) for putting these financial and other resources at the disposal of another institutional unit.* For most purposes, interest is an accrual concept. However, from a cash accounting perspective, periodic debt-service payments can be classified as **interest payments**¹¹ or **principal payments**. The accrual of interest is described in the annex to this chapter.

⁸One-off guarantees occur where the risk of a loan or security guaranteed cannot be calculated with any degree of accuracy. In most cases, these instruments are not recognized as financial assets or liabilities until called, and are not recorded in the *2008 SNA* or *GFSM*.

⁹Standardized guarantees, which give rise to actual and not contingent liabilities, are discussed in Chapter 3.

¹⁰In other words, interest is the amount debtors will have to pay their creditors over and above the repayment of the amounts advanced by the creditors.

¹¹For long-term debt instruments, interest paid periodically are those to be paid by the debtor to the creditor annually or more frequently; for short-term instruments (i.e., with an original maturity of one year or less), interest paid periodically are those to be paid by

2.11 The definition of debt does not differentiate between principal and interest accrued. That is, the amount outstanding debt is a total that includes resources originally advanced plus interest accrued to date minus any repayments. It is the future requirement to make payments, not the form of those payments, that determines whether a liability is a debt instrument or not. Payments could be made in any form, for example, currency and deposits, or goods and services.

2.12 The definition of debt does not necessarily imply that the timing of future payments of principal and/or interest is known. In many instances, the schedule of payments is known, such as on debt securities and loans. However, in other instances the exact schedule of payments may not be known. For example, the timing of payment might be at the demand of the creditor, such as for noninterest-bearing demand deposits; or when the debtor is in arrears, and it is not known whether or when the arrears will actually be paid. Once again, it is the requirement to make the payment that determines whether the liability constitutes debt, rather than the timing of the payments. The liabilities of pension funds and life insurance companies to their participants and policyholders are considered as debt of those institutions because at some point in time a payment is due, even though the timing of that payment may be unknown.

2. Net debt

2.13 For risk management, debt liabilities and assets may be dealt with in an integrated manner, focusing on net debt. For example, debt may have been incurred to fund assets that will generate income to meet liabilities. *Net debt is calculated as gross debt minus financial assets corresponding to debt instruments*, as illustrated in Table 2.1. Net worth and the balance sheet, which cover an even wider range of assets and liabilities, are discussed in more detail in Chapter 3, Section B.

2.14 Monetary gold, as defined in *2008 SNA* and *BPM6*, includes elements of a debt instrument (unallocated gold accounts) and a nondebt instrument (gold bullion). In principle, the gold bullion element of monetary gold should be excluded from the calculation of net debt. However, in practice, the total amount for monetary gold may have to be used in the net debt calculation because compilers of public sector debt statistics may not be able to exclude the gold bullion element.

the debtor to the creditor before the redemption date of the instrument. **Interest payments** are distinct from the concept of accruing interest over the life of the liability.

Table 2.1. Calculation of Net Debt

Gross debt (liabilities in the form of debt instruments) (a)	Financial assets corresponding to debt instruments (b)	Net debt (c)=(a)-(b)
SDRs	Monetary gold and SDRs	
Currency and deposits	Currency and deposits	
Debt securities	Debt securities	
Loans	Loans	
Insurance, pension, and standardized guarantee schemes	Insurance, pension, and standardized guarantee schemes	
Other accounts payable	Other accounts receivable	
Total gross debt	Total financial assets corresponding to gross debt	Total net debt

C. Institutional Units and Sectors

2.15 An economy can be divided into **sectors**, with each sector consisting of a number of **institutional units**¹² that are resident in the economy (see Box 2.1). This *Guide* follows the *2008 SNA* by dividing an economy into five mutually exclusive institutional sectors. The units in each sector have similar economic objectives that can be differentiated from those of other sectors. The five institutional sectors are:

- The **nonfinancial corporations sector**, which consists of resident institutional units that are principally engaged in the production of market goods or nonfinancial services;
- The **financial corporations sector**, which consists of resident institutional units that are principally engaged in providing financial services, including financial intermediation, to other institutional units;
- The **general government sector**, which consists of resident institutional units that fulfill the functions of government as their primary activity. In other words, those institutional units that produce services (and possibly goods) for individual or collective consumption, primarily on a nonmarket basis, and redistribute income and wealth, in addition to fulfilling their political responsibilities and their role of economic regulation;
- The **households sector**, which consists of a group of persons who share the same living accommo-

¹²Hereafter, “unit” will often be used as a short form for “institutional unit.”

Box 2.1. Definition of an Institutional Unit

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

- The ability of an institutional unit to own goods or assets in its own right means that it is also able to exchange the ownership of goods or assets in transactions with other institutional units.
- An institutional unit is able to take economic decisions and engage in economic activities for which it is itself held directly responsible and accountable at law.
- An institutional unit is able to incur liabilities on its own behalf, to take on other obligations or future commitments, and to enter into contracts.
- Either a complete set of accounts, including a balance sheet of assets, liabilities, and net worth, exists for an institutional unit, or it would be possible and meaningful, from both an economic and legal viewpoint, to compile a complete set of accounts if they were required.

There are two main types of entities that may qualify as institutional units: (1) persons or groups of persons in the form of households and (2) legal or social entities, whose existence is recognized by law or society independently of the persons or other entities that may own or control them. The four types of legal or social entities recognized in the 2008 SNA and this *Guide* as institutional units are corporations, quasi-corporations, nonprofit institutions, and government units. The status of institutional units cannot always be inferred from its name, and it is necessary to examine its objectives and functions.

...ation, who pool some, or all, of their income and wealth and who consume certain types of goods and services collectively (mainly housing and food). Households may be of any size and take a variety of different forms in different societies or cultures. All physical persons in the economy must belong to one and only one household. The principal functions of households are to supply labor, to undertake final consumption, and, as entrepreneurs, to produce market goods and non-financial (and possibly financial) services; and

- The **nonprofit institutions serving households (NPISHs) sector**, which consists of resident non-market nonprofit institutions (NPIs) that are not controlled by government.¹³ They provide goods

¹³NPIs are legal or social entities, created for the purpose of producing goods and services, whose status does not permit them to be source of income, profit, or other financial gain for the units that

and services to households free or at prices that are not economically significant.

2.16 Each of these sectors may be divided into sub-sectors, and the subsectors can be combined in different ways to form other sectors. For example, the general government sector can be divided into central, state, and local government subsectors, and the nonfinancial corporations sector can be divided into public nonfinancial corporations, foreign-controlled nonfinancial corporations, and national private nonfinancial corporations.¹⁴

2.17 *The public sector consists of all resident institutional units controlled directly, or indirectly, by resident government units, that is, all units of the general government sector, and resident public corporations* (see Figure 2.1).¹⁵ *Control is defined as the ability to determine general corporate policy of the corporation. “General corporate policy” refers to, in a broad sense, the key financial and operating policies relating to the corporation’s strategic objectives as a market producer.* The 2008 SNA lists eight indicators that should assist in determining whether a corporation is controlled by a government unit or another public corporation¹⁶: (1) ownership of the majority of the voting interest; (2) control of the board or other governing body; (3) control of the appointment and removal of key personnel; (4) control of key committees of the entity; (5) golden shares and options; (6) regulation and control; (7) control by a dominant public sector customer or group of public sector customers; and (8) control attached to borrowing from the government. Although a single indicator could be sufficient to establish control, in other cases, a number of separate indicators may collectively indicate control.

2.18 *The general government sector comprises all government units and all nonmarket nonprofit institutions (NPIs) that are controlled by government units:*

establish, control, or finance them. Nevertheless, some NPIs deliver goods and services to customers at economically significant prices and, when they do, these NPIs are treated in the same way as corporations in the 2008 SNA. Other NPIs that are controlled by government and are engaged in nonmarket production are treated as government units. The remaining NPIs, those that produce goods and services but do not sell them at economically significant prices and are not controlled by government, are treated as a special group of units called NPIs serving households, or as part of corporations, if they serve them.

¹⁴Similarly, financial corporations can be divided into public, foreign-controlled, and national private financial corporations, respectively.

¹⁵For a complete discussion on the sectorization of the public sector, see *GFSM 2001 Companion Material, Coverage and Sectorization of the Public Sector*, by Paul Cotterell, Ethan Weisman, and Tobias Wickens, December 2006, IMF, Washington, DC. (<http://www.imf.org/external/pubs/ft/gfs/manual/comp.htm>)

¹⁶See 2008 SNA, paragraphs 4.77–4.80 for more details.

Figure 2.1. The Public Sector and Its Relation to Other Institutional Sectors of the Economy

General Government Sector	Nonfinancial Corporations Sector	Financial Corporations Sector	Households Sector	Nonprofit Institutions Serving Households Sector
Public	Public	Public	Private	Private

- **Government units** are institutional units with legislative, judicial, or executive authority over other institutional units within a given area; they assume responsibility for the provision of goods and services to the community or to individual households on a nonmarket basis; they make transfer payments to redistribute income and wealth; and they finance their activities mainly by means of taxes and other income from units in other sectors of the economy.
- **Nonmarket NPIs that are controlled by government units** are legal or social entities created for the purpose of producing goods and services on a nonmarket basis, but whose status does not permit them to be a source of income, profit, or other financial gain for government. Even though NPIs may have a legal status of nongovernment entities, they are considered to be carrying out government policies and, thus, effectively are part of government. The 2008 SNA lists five indicators that should assist in determining whether an NPI is controlled by a government unit: (1) the appointment of officers; (2) other provisions of the enabling instrument; (3) contractual agreements; (4) degree of financing by government; and (5) risk exposure.

2.19 *Public corporations include all corporations controlled by government units or by other public corporations. Corporations subject to the control of a government (or public corporation) that is resident in a different economy from that government are not classified as public corporations.¹⁷ Corporations are all entities that are (i) capable of generating a profit or other financial gain for their owners, (ii) recognized by law as legal entities separate from*

their owners who enjoy limited liability, and (iii) set up for purposes of engaging in market production (i.e., producing goods and services at economically significant prices¹⁸). Quasi-corporations, which are not incorporated or otherwise legally established, but function as if they were corporations, are also classified as corporations. Market NPIs (i.e., NPIs engaging in market production) are also classified as corporations. Corporations are part of the nonfinancial corporations sector or financial corporations sector in the economy, depending on the nature of their primary activity. Institutional units controlled by government, that are legally established as corporations but are not market producers (i.e., they do not sell their output at economically significant prices), are classified as part of the general government sector, not the public corporations sector. Similarly, unincorporated enterprises owned by government units that are not quasi-corporations remain integral parts of those units and, therefore, must be included in the general government sector.

D. Institutional Coverage and Sectorization of the Public Sector

2.20 The public sector is a combination of the general government sector and all public corporations. Figure 2.2 illustrates the public sector and its main components.

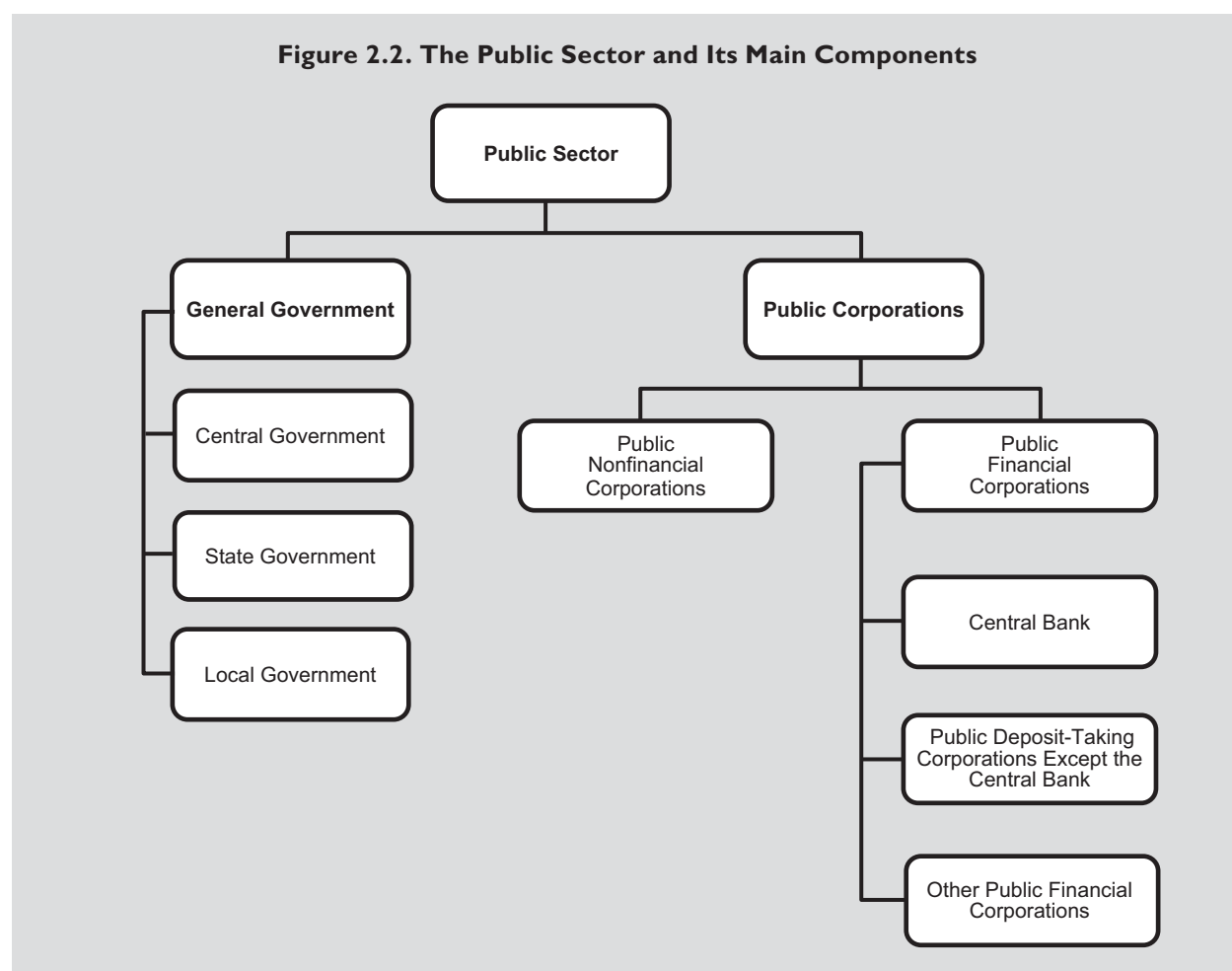
I. The general government sector and its subsectors

2.21 For analytic purposes, it is often necessary or desirable to disaggregate the statistics of the general government sector. Two primary methods of construc-

¹⁷Also see the discussion of residence later in this chapter.

¹⁸*Economically significant prices are prices that have a significant influence on the amounts that producers are willing to supply and on the amounts that purchasers wish to buy.*

Figure 2.2. The Public Sector and Its Main Components



ting subsectors are presented; the difference between them is the result of alternative treatments of social security funds.

2.22 Depending on the administrative and legal arrangements, there may be more than one level of government within a country, and statistics should be compiled for each level (also referred to as a subsector). However, because of these different arrangements, data at each subsector of government are not suitable for international comparisons. Only general government and public sector data are internationally comparable.

2.23 In the *GFSM* and *2008 SNA*, provision is made for three subsectors of general government: central; state, provincial, or regional; and local. Not all countries have all three levels; some may have only a central government or a central government and one level below. Other countries may have more than three levels. In that case, the various units should all be classified as one of the three subsectors suggested here. In addition to levels of government, the existence of social security

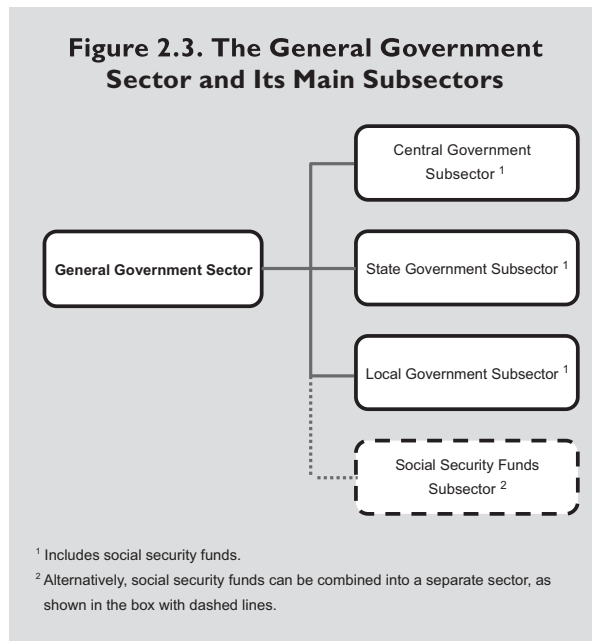
funds and their role in fiscal policy may require that statistics for all social security funds be compiled as a separate subsector of the general government sector.

2.24 The requirements to classify general government units according to their level of government, and whether they are a social security fund (see paragraphs 2.44–2.46), can be accommodated in two alternative sets of subsectors, as outlined in the *GFSM* and *2008 SNA*.¹⁹

- All social security funds could be combined into a separate subsector and all other general government units could be classified according to their level. In that case, the central, state, and local government subsectors would comprise all government units other than social security funds (Figure 2.3); or

¹⁹The alternative methods of subsectoring are designed to accommodate different analytic needs. The decision as to which method is more appropriate in a given country depends on how significant social security funds are and on the extent to which they are managed independently of the government units with which they are associated.

Figure 2.3. The General Government Sector and Its Main Subsectors



- Social security funds could be classified according to the level of government that organizes and manages them and combined with the other general government units at that level. Thus, the general government would consist of central, state, and local government, assuming that all three levels of government exist (Figure 2.3). To facilitate analysis of social security funds as a whole, separate statistics for them may be provided within the statistics for each level of government.

Countries may choose either presentation. For purposes of consistency and comparability, the *GFS Yearbook* adopts a single approach.

a. Budgetary and extrabudgetary

2.25 The central, state, and local government subsectors of general government are each made up of institutional units (see paragraph 2.23). For each of these subsectors, it is often analytically useful to group its entities according to administrative arrangements and distinguish between a **budgetary** component and those that are **extrabudgetary** (irrespective of the treatment of social security funds—see paragraph 2.24). The budgetary component may only comprise the main (or general) budget and the extrabudgetary component of the remaining entities that constitute that level of government, excluding social security funds. Such a grouping allows for a more direct comparison of the budget data with the statistics. Whether entities are classified as budgetary

or extrabudgetary depends on country circumstances. What is important, though, is that the statistics for each level of government cover all entities that constitute that subsector of government (central, state, or local), based on macroeconomic statistical guidelines.

2.26 In all countries, there is an institutional unit of the general government sector important in terms of size and power, in particular the power to exercise control over many other units and entities. *The budgetary central government is a single unit of the central government that encompasses the fundamental activities of the national executive, legislative, and judiciary powers.* This component of general government is usually covered by the main (or general) budget. The budgetary central government’s revenues, as well as its expenses and outlays, are normally regulated and controlled by a Ministry of Finance, or its functional equivalent, by means of a general budget approved by the legislature. Most of the ministries, departments, agencies, boards, commissions, judicial authorities, legislative bodies, and other entities that make up the budgetary central government are not separate institutional units. This is because they generally do not have the authority to own assets, incur liabilities, or engage in transactions in their own right. The state or local government subsectors also have each a **budgetary state/local government** component that includes the principal executive, legislative, and judicial powers for these levels of government. They may also have extrabudgetary components.

2.27 *General government entities with individual budgets not fully covered by the general budget are considered extrabudgetary.*²⁰ These entities operate under the authority or control of a central, state, or local government. Typically, extrabudgetary entities have their own revenue sources, which may be supplemented by grants (transfers) from the general budget or from other sources, and have discretion over the volume and composition of their spending. Such entities are often established to carry out specific functions, such as road construction or the nonmarket production of health or education services. Budgetary arrangements vary widely across countries, and various terms are used to describe these entities, but they are often referred to as “extrabudgetary funds” or “decentralized agencies.”

²⁰These government entities are institutional units if they maintain full sets of accounts, own goods or assets in their own right, engage in nonmarket activities for which they are held accountable at law, and are able to incur liabilities and enter into contracts in their own right. If an entity does not qualify as a unit, it is considered as part of the unit that controls it.

2.28 Nonmarket NPIs controlled by government are typically classified as extrabudgetary units because they generally have the authority to own assets, incur liabilities, or engage in transactions in their own right. More specifically, they are classified with the level of government that controls them, i.e., central, state, or local government.

2.29 Sometimes, governments establish legal entities that cannot act independently and are simply passive holders of assets and liabilities. Such an entity is referred to as a **resident artificial subsidiary** and is not treated as a separate institutional unit, unless it is resident in an economy different from that of its parent (see paragraphs 2.94–2.102). Resident artificial subsidiary entities are classified as budgetary or extrabudgetary components of the level of government that control them (i.e., as part of its parent unit).

2.30 Often, government resident artificial subsidiaries are set up as special purpose entities (SPEs). Although these resident artificial subsidiaries are legally corporations, they should be classified within the general government sector, usually as an extrabudgetary government unit.²¹ These extrabudgetary units are classified in the general government sector to the extent that they are nonmarket producers and are controlled by another government unit.

2.31 Distinct from a resident artificial subsidiary is a legal entity established by government that sells goods or services exclusively to government, without tendering for a contract with the government in competition with the private sector. Such an entity is undertaking only ancillary activities,²² and will in general not satisfy the conditions of being an institutional unit (similar to resident artificial subsidiaries).

2.32 Governments may establish a central borrowing authority that appears to be a public financial corporation but is, in fact, a general government unit. The central borrowing authority borrows on the market and then lends only to general government units, generally

²¹Resident SPEs acting independently, acquiring assets and incurring liabilities on their own behalf, and accepting the associated risk, are treated as separate institutional units and are classified to sector according to their principal activity. All nonresident SPEs are treated as separate institutional units and any transactions they carry out are reflected in the accounts of government (see paragraphs 2.64–2.67).

²²*An ancillary activity is a supporting activity undertaken within an enterprise in order to create the conditions within which the principal or secondary activities can be carried out. In addition, ancillary activities have certain common characteristics related to their output.* See 2008 SNA, paragraphs 5.35–5.45 for more details.

on commercial terms. Such entities merely facilitate government borrowing and should be classified in general government, either as a separate institutional unit (extrabudgetary) or with the government unit that controls the central borrowing authority (budgetary).

2.33 The following sections further define the subsectors of government. These definitions apply whether social security funds are included with the level of government that organizes and manages them, or as a separate subsector of general government.

b. Central government

2.34 *The central government subsector consists of the institutional unit(s) of the central government plus those nonmarket NPIs that are controlled by the central government. The political authority of central government extends over the entire territory of the country.* Central government has, therefore, the authority to impose taxes on all resident institutional units and on nonresident units engaged in economic activities within the country. Its political responsibilities include national defense, the maintenance of law and order, and relations with foreign governments. It also seeks to ensure the efficient working of the social and economic system by means of appropriate legislation and regulation. It is responsible for providing collective services for the benefit of the community as a whole, and for this purpose incurs outlays on defense and public administration. In addition, it may incur outlays on the provision of services, such as education or health, primarily for the benefit of individual households, and it may make transfers to other institutional units, including other levels of government.

2.35 In most countries, the central government subsector is a large and complex subsector. Nonetheless, as described in paragraphs 2.24–2.32, it is generally composed of a budgetary central government, extrabudgetary units, and social security funds (unless a separate subsector is used for social security funds, as described in paragraph 2.24).

2.36 Although the central government may also control nonfinancial or financial corporations, these corporations are classified outside of the central (and general) government but are part of the public sector. However, if institutional units controlled by government are legally established as corporations but are not market producers, they are classified as part of the general government sector, not the public corporations sector. Similarly, unincorporated enterprises control-

led by government units that are not quasi-corporations remain integral parts of those units and, therefore, would be included in the general government sector.

c. State, provincial, or regional government

2.37 For ease of expression and consistency with the 2008 SNA and GFSM, this level of government will be referred to hereafter as the state government. *The state government subsector consists of state, provincial, or regional governments that are separate institutional units plus those nonmarket NPIs that are controlled by state, provincial, or regional governments. State governments are institutional units exercising some of the functions of government at a level below that of central government and above that of the governmental institutional units existing at a local level.* They are institutional units whose fiscal, legislative, and executive authority extends only to individual “states” into which the country as a whole may be divided. Such “states” may be described by different terms in different countries. In many countries, especially smaller countries, individual states and state governments may not exist. However, in large countries, especially those that have federal constitutions, considerable powers and responsibilities may be assigned to state governments.

2.38 A state government usually has the fiscal authority to levy taxes on institutional units that are resident in, or engage in economic activities or transactions within, its area of competence (but not other areas). A state government is an institutional unit if it maintains a full set of accounts, owns goods or assets in its own right, engages in nonmarket activities for which it is held accountable at law, and is able to incur liabilities and enter into contracts in its own right. It must also be entitled to spend or allocate some, or possibly all, of the taxes or other revenue that it receives according to its own policies, within the general rules of law of the country, although some of the transfers it receives from central government may be tied to certain specified purposes. It should also be able to appoint its own officers, independently of external administrative control. On the other hand, if a regional unit is entirely dependent on funds from central government, and if the central government also determines the ways in which these funds are to be spent at the regional level, it should be treated as an agency of central government rather than as a separate level of government.

2.39 State governments, when they exist, are distinguished by the fact that their fiscal authority extends over the largest geographical areas into which the coun-

try as a whole may be divided for political or administrative purposes. In a few countries more than one level of government exists between the central government and the smallest governmental institutional units at a local level; in such cases, for purposes of sectoring within the GFSM and 2008 SNA, these intermediate levels of government are grouped together with the level of government, either state or local, with which they are most closely associated.

2.40 State governments may control corporations in the same way as central government. Similarly, they may have units that engage in market production. The relevant producer units should be treated as quasi-corporations whenever their operations and accounting records justify this. These quasi-corporations should be classified outside of the state government subsector (and general government sector) as part of public corporations.

d. Local government

2.41 *The local government subsector consists of local governments that are separate institutional units plus those nonmarket NPIs that are controlled by local governments. In principle, local government units are institutional units whose fiscal, legislative, and executive authority extends over the smallest geographical areas distinguished for administrative and political purposes.* The scope of their authority is generally much less than that of central government or state governments, and they may or may not be entitled to levy taxes on institutional units resident in their areas. They are often heavily dependent on grants or transfers from higher levels of government, and they may also act, to some extent, as agents of central or regional governments. However, to be recognized as local government, the unit should maintain full sets of account, own goods or assets in its own right, engage in nonmarket activities for which they are held accountable at law, and are able to incur liabilities and enter into contracts in its own right. They should also be able to appoint their own officers, independently of external administrative control. Even when local governments act as agents of central or state governments to some extent, they can be treated as a separate level of government, provided they are also able to raise and spend some funds on their own initiative and own responsibility.

2.42 Local government units are in closest contact with institutional units resident in their localities, and they typically provide a wide range of services to local residents, some of which may be financed out of trans-

fers from higher levels of government. The same rules govern the treatment of the production of goods and services by local government units as are applied to central and state governments. Units such as municipal theaters, museums, and swimming pools, that supply goods or services on a market basis and can be recognized as quasi-corporations, are classified as part of the nonfinancial corporations sector, provided the appropriate accounting information is available (see paragraphs 2.59–2.60). Otherwise, units supplying goods and services on a market basis are treated as market establishments within local government. Units supplying services on a nonmarket basis, such as education or health, remain an integral part of the local government unit which controls them.

2.43 Government units serving both a state government and one or more local governments should be included with the level of government that predominates in its operations and finances. In some countries more than one level of government exists between the central government and the smallest governmental institutional units at a local level. In such cases, these intermediate levels of government are grouped together with the level of government, either state or local, with which they are most closely associated. For some analyses, it may be useful to combine the statistics for state and local governments.

e. Social security funds

2.44 *Social security funds are those units that are devoted to the operation of social security schemes. Social security schemes are social insurance schemes covering the community as a whole, or large sections of the community, and are imposed and controlled by government units.*²³ Social security schemes cover a

²³A social insurance scheme is an insurance scheme where the following two conditions are satisfied: (a) the benefits received are conditional on participation in the scheme and constitute social benefits (as this term is used in the 2008 SNA); and (b) at least one of the three conditions following is met: (i) Participation in the scheme is obligatory either by law or under the terms and conditions of employment of an employee, or group of employees; (ii) The scheme is a collective one operated for the benefit of a designated group of workers, whether employed or nonemployed, participation being restricted to members of that group; and (iii) An employer makes a contribution (actual or imputed) to the scheme on behalf of an employee, whether or not the employee also makes a contribution.

A social insurance contribution is the amount payable to a social insurance scheme in order for a designated beneficiary to be entitled to receive the social benefits covered by the scheme. A social insurance benefit is a social benefit payable because the beneficiary participates in a social insurance scheme and the social risk insured against has occurred.

wide variety of programs, providing benefits in cash or in kind for old age, invalidity or death, survivors, sickness and maternity, work injury, unemployment, family allowance, health care, etc.

2.45 In macroeconomic statistics, a social security fund is recognized only if it is organized and managed separately from the other activities of government units, if it holds its assets and liabilities separately from other government units, and it engages in financial transactions on its own account. However, not all social security schemes are organized and managed by social security funds; for example, a social security scheme for sickness may be operated by a national health ministry. If there is a separate fund (i.e., a separate institutional unit) to meet government employee pensions, this fund should be excluded from social security funds.

2.46 Consistent with the *GFSM* and *2008 SNA*, this *Guide* allows for social security funds to be accommodated in two alternative sets of subsectors, as described in paragraph 2.24.

2. Public nonfinancial corporations subsector

2.47 *All resident nonfinancial corporations controlled by general government units or public corporations are part of the public nonfinancial corporations subsector. Nonfinancial corporations are corporations whose principal activity is the production of market goods or nonfinancial services.*

2.48 Typical examples of public nonfinancial corporations are national airlines, national electricity companies, and national railways. This category also includes public nonprofit institutions engaging in market production (such as hospitals, schools, or colleges that charge economically significant prices). However, this category excludes entities that receive financial aid from government but are not controlled by government (see paragraph 2.17).

3. Public financial corporations subsector

2.49 *All resident financial corporations controlled by general government units or other public corporations are part of the public financial corporations subsector. Financial corporations comprise all resident corporations whose principal activity is the provision of financial services including financial intermediation, insurance and pension fund services, and units that provide activities that facilitate finan-*

cial intermediation to other institutional units. In addition, this category includes public nonprofit institutions engaged in market production of a financial nature such as those financed by subscriptions from financial enterprises whose role is to promote and serve the interests of those enterprises.

2.50 The public financial corporations subsector can be divided into public deposit-taking corporations and other public financial corporations. Relative to other subsectors of the public sector, public financial corporations may tend to have relatively large levels of gross debt and relatively low, or negative, net debt because of their role in financial intermediation. Accordingly, separate data for public financial corporations may be more useful than combined with other components of the public sector.

a. Public deposit-taking corporations

2.51 *Public deposit-taking corporations are financial corporations controlled by general government units or other public corporations whose principal activity is financial intermediation and who have liabilities in the form of deposits or financial instruments that are close substitutes for deposits.* Two types of public deposit-taking corporations can be distinguished: the central bank and public deposit-taking corporations except the central bank.

i. The central bank

2.52 *The central bank is the national financial institution that exercises control over key aspects of the financial system.* In general, the following financial intermediaries are classified in this subsector:

- The national central bank, including where it is part of a system of central banks;
- Currency boards or independent currency authorities that issue national currency that is fully backed by foreign exchange reserves; and
- Central monetary agencies of essentially public origin (for example, agencies managing foreign exchange or issuing banknotes and coins) that keep a complete set of accounts but are not classified as part of central government. Supervisory authorities that are separate institutional units are not included with the central bank but are included with other (public) financial corporations.

2.53 As long as the central bank is a separate institutional unit, it is always part of the financial corporations sector (even if it is primarily a nonmarket producer).

ii. Public deposit-taking corporations except the central bank

2.54 *Public deposit-taking corporations except the central bank consist of all resident depository corporations, except the central bank, that are controlled by general government units or other public corporations.* Examples are commercial banks, “universal” banks, “all purpose” banks, savings banks, post office giro institutions, post banks, rural credit banks, agricultural credit banks, export-import banks, and specialized banks if they take deposits or issue close substitutes for deposits.

b. Other public financial corporations

2.55 *Other public financial corporations comprise all resident financial corporations, except public deposit-taking corporations, controlled by general government units or other public corporations.* This subsector includes units that raise funds on financial markets other than by deposits and use them to acquire financial assets. Examples of units in this subsector are money market funds, nonmoney market investment funds, other financial intermediaries (except insurance corporations and pension funds), financial auxiliaries²⁴ (including supervisory authorities that are separate institutional units), captive financial institutions and money lenders, insurance corporations, and pension funds.

4. Other groupings of public sector units

2.56 In addition to the main and subgroupings of general government and public corporations in the preceding sections, other groupings of public sector units could be constructed in macroeconomic statistics, including:

- The nonfinancial public sector—the general government sector plus public nonfinancial corporations;
- The general government sector plus the central bank; and

²⁴*Financial auxiliaries are institutional units principally engaged in serving financial markets, but do not take ownership of the financial assets and liabilities they handle.*

- The central government public sector—the central government subsector plus public corporations controlled by the central government.

2.57 The term “sovereign” is often used by financial markets and fiscal analysts in the context of debt. Unlike groupings of the public sector described previously, which are based on institutional units, “sovereign” is defined on a functional basis and may be used in varying ways. Normally, the “sovereign issuer” of debt is the government (usually national or federal) that de facto exercises primary authority over a recognized jurisdiction whose debt securities are being considered. Consequently, “sovereign debt” is debt that has been legally contracted by the national government. Debt issued by agents of the sovereign—commonly referred to in financial markets as “quasi-sovereigns”—may be part of the definition of sovereign debt if the sovereign explicitly guarantees or contracts on their behalf. Examples of possible quasi-sovereigns are state or local governments, the central bank, or other public corporations. “Sovereign debt” is not the same as “public sector debt” and should not be used interchangeably. To avoid confusion and, as a service to users, the presentation of “sovereign debt” statistics should indicate the institutional coverage of the debt, and how this relates to general government and/or public sector debt statistics.

2.58 It is often necessary to construct these additional groupings of public sector units for analytic purposes. Although public corporations are primarily engaged in selling goods and services at economically significant prices (market activity), they may serve many different purposes. For example, public corporations may exist to serve as an instrument of public (or fiscal) policy for government, to generate profits for general government, to protect key resources, to provide competition where barriers to entry may be large, and to provide basic services where costs are prohibitive. Public corporations are often large and/or numerous, and they have an economic impact, for example:

- Often public corporations are involved in so-called quasi-fiscal operations (i.e., they carry out government operations at the behest of the government units that control them) in addition to the market activities that public corporations normally engage in as market producers.
- Public corporations may also be of significance to government because of the effects their magnitude or strategic position may have on macroeconomic objectives, such as bank credit, aggregate demand, borrowing abroad, and the balance of payments.

- Many public corporations may also represent a sizeable investment of national resources, at considerable opportunity costs. With resources coming predominantly from government rather than private investors, these investments may not benefit from the business analysis usually provided by financial markets as regards management efficiency and a rate of return on capital.
- Public corporations not only have a macroeconomic impact, they also are a potential source of fiscal risk to the extent that their debts would be explicitly or implicitly guaranteed by government, or may hold reputational risks for government.

5. Borderline cases

a. Identifying quasi-corporations

2.59 *A quasi-corporation is either (i) an unincorporated enterprise owned by a resident institutional unit that has sufficient information to compile 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, or (ii) an unincorporated enterprise owned by a nonresident institutional unit that is deemed to be a resident institutional unit because it engages in a significant amount of production in the economic territory over a long or indefinite period of time.*²⁵

Because quasi-corporations function as if they were corporations, they are treated in macroeconomic statistical systems as if they were corporations: that is, as institutional units separate from the units to which they legally belong. Thus, quasi-corporations owned by government units are grouped with public corporations in the public nonfinancial or public financial corporation sectors. Indeed, the existence or possibility to construct a complete set of accounts, including balance sheets, for the enterprise is a necessary condition for it to be treated as a separate institutional unit.

2.60 To be treated as a government quasi-corporation, the government must grant management of the enterprise considerable discretion, not only with respect to the management of the production process but also the use of funds. Government quasi-corporations must be able to maintain their own working balances and business credit and be able to finance some or all of

²⁵Unincorporated enterprises, such as a post office or national railways, may exist in government ministries. When these unincorporated enterprises produce goods and services for the market and have separate sets of accounts, they are quasi-corporations and classified as part of public corporations.

their capital formation out of their own saving, financial assets, or borrowing. The ability to distinguish flows of income and capital between quasi-corporations and government implies that, in practice, their operating and financing activities must be separable from government revenue or financing statistics, despite the fact that they are not separate legal entities.

b. Restructuring agencies

2.61 *Restructuring agencies are entities set up to sell corporations and other assets, and for the reorganization of companies.* They may also serve for defeasance of impaired assets or repayment of liabilities of insolvent entities, often in the context of a banking crisis.

2.62 Some public sector units specialize in the restructuring of corporations, either nonfinancial or financial. These corporations may or may not be controlled by government. Restructuring agencies may be long-standing public sector units or agencies created for this special purpose. Governments may fund the restructuring operations in various ways, either directly, through capital injections (capital transfer, loan, or acquisition of equity) or indirectly, through granting guarantees. The following criteria should be considered in determining whether a restructuring unit is part of general government, given that the market/nonmarket output criteria is insufficient for this purpose:²⁶

- A unit that serves only government is more likely to be included in general government than one that serves other units as well.
- A unit that sells financial assets at a value other than market values is more likely to be in the general government sector than not.
- A unit that takes on low risk because it acts with strong public financial support and, by law or *de facto*, on behalf of the government is likely to be included within the general government sector.

2.63 Restructuring agencies may operate in a number of ways. The following are two frequently observed examples:

- A restructuring agency may undertake the reorganization of public sector entities or the indirect management of privatization. Two cases may be considered:

- The restructuring unit is a genuine holding company controlling and managing a group of subsidiaries and only a minor part of its activity is dedicated to channeling funds from one subsidiary to another on behalf of the government and for public policy purposes. This unit should be classified as a financial corporation and the transactions made on behalf of the government should be rerouted through the general government.²⁷

- The restructuring unit, whatever its legal status, acts as a direct agent of the government and is not a market producer. Its main function is to redistribute national income and wealth, channeling funds from one unit to the other. The restructuring unit should be classified in the general government sector.

- Another example of a restructuring agency is one mainly concerned with impaired assets, mainly in a context of a banking or other financial crisis. Such a restructuring agency must be analyzed according to the degree of risk it assumes, considering the degree of financing of the government. Again, two cases may be considered:

- The restructuring agency borrows on the market at its own risk to acquire financial or non-financial assets that it actively manages. In this case the unit should be classified as an institution in the financial corporations sector.

- The restructuring agency deliberately purchases assets at above market prices with direct or indirect financial support from the government. It is primarily engaged in the redistribution of national income (and wealth), does not act independently of government or place itself at risk, and therefore should be classified in the general government sector.

c. Special purpose entities

2.64 Although there is no international definition of a special purpose entity (SPE), some typical features

²⁷Rerouting records a transaction as taking place in channels different from those observed. For example, a direct transaction between unit A and unit C may be best understood as a transaction first between unit A and unit B and second between unit B and unit C. This most often occurs when a unit that is a party to a transaction does not appear in the actual accounting records because of administrative arrangements. Social contributions paid by employers directly to a retirement scheme are one such example. The economic substance of such a transaction is revealed by rerouting: showing the social contributions as part of compensation of employees that is payable by employers to employees, who then make social contributions to the retirement scheme.

²⁶This is because restructuring units have, by nature, little output.

are that it has little physical presence, is always related to another corporation or government, and it is often resident in a territory other than the territory of residence of its parent (see paragraph 2.97).²⁸

2.65 Governments may set up SPEs for financial convenience. For example, the SPE may be involved in fiscal or quasi-fiscal activities (including securitization of assets, borrowing, etc.). Resident²⁹ SPEs that function only in a passive manner relative to general government and that carry out fiscal and quasi-fiscal activities are not treated as separate institutional units in the macroeconomic statistical systems—they are treated as part of general government regardless of their legal status. Resident SPEs acting independently, acquiring assets and incurring liabilities on their own behalf, accepting the associated risk, are treated as separate institutional units and are classified to sector according to their principal activity (see paragraph 3.68).

2.66 SPEs that are resident in a different country than their owning government are always classified as separate institutional units in the economy where they are established. When such entities exist, care must be taken to reflect the fiscal activities of government accurately. All flows and stock positions between the general government and the nonresident SPE should be recorded in the accounts for general government and the rest of the world when they occur.

2.67 A government may create a nonresident SPE to undertake government borrowing or incur government outlays abroad. Even if there are no actual economic flows recorded between the government and the SPE related to these fiscal activities, flows and stock positions should be imputed in the accounts of both the government and the rest of the world to reflect the fiscal activities of the government undertaken by the SPE, including borrowing. The special case of securitization units is discussed in Chapter 4.

d. Joint ventures

2.68 Many public sector units enter into arrangements with private entities (for example, a public-private partnership—see Chapter 4) or other public sector units to undertake a variety of activities jointly. The activities could result in market or nonmarket output. Joint operations can be structured broadly as one of three types: jointly controlled units, referred to here as

joint ventures; jointly controlled operations; and jointly controlled assets.

2.69 *A joint venture involves the establishment of a corporation, partnership, or other institutional unit in which, legally, each party has joint control over the activities of the joint venture unit.* The units operate in the same way as other units except that a legal arrangement between the parties establishes joint control over the unit. As an institutional unit, the joint venture may enter into contracts in its own name and raise finance for its own purposes. A joint venture maintains its own accounting records.

2.70 The principal question to be considered is whether the effective economic control of the joint venture establishes a public or a private unit. If a joint venture operates as a nonmarket producer, then government is in effective control and it is classified as part of the general government sector.

2.71 If the joint venture is a market producer, it is treated as a public or private corporation according to whether it is or is not controlled by a government unit, using the same indicators as described above. Normally, the percentage of ownership will be sufficient to determine control. If the public and private units own an equal percentage of the joint venture, the other indicators of control must be considered (see paragraph 2.17).

2.72 Public sector units can also enter into joint operating arrangements that do not involve establishing separate institutional units. Joint operating arrangements can be in the form of jointly controlled operations or jointly controlled assets. In this case, there are no units requiring classification, but the recording should reflect the proper ownership of assets. Also, any sharing arrangements of revenues and expenses should be recorded in accordance with the provisions of the governing contract. For example, two units may agree to be responsible for different stages of a joint production process or one unit may own an asset or a complex of related assets but both units agree to share revenues and expenses.

e. Sinking funds

2.73 *A sinking fund is a separate account, which may be an institutional unit or not, that is made up of segregated contributions provided by the unit(s) that makes use of the fund (the “parent” unit) for the gradual redemption of the parent unit’s debt.* In the public sector, mostly general government units make use of sinking funds, but public corporations may do so too. Aside from eventually extinguishing all gov-

²⁸For more details on SPEs, see *2008 SNA*, paragraphs 4.55–4.67.

²⁹For a definition of resident and nonresident units, see the section on residence later in this chapter.

ernment debt in a prudent and orderly manner, sinking funds may be meant to inspire confidence, supporting the market for government securities.

2.74 The subsector classification of a sinking fund may not always be clear. Public sector sinking funds are sectorized according to whether they are separate institutional units³⁰ and, if so, whether they provide their services at economically significant prices (on a market basis) or not.

- Sinking funds that are separate institutional units and provide services on a market basis are classified as public financial corporations.
- Sinking funds that are separate institutional units and provide services on a nonmarket basis are classified as general government units. In particular, such sinking funds will be classified as extrabudgetary units of the unit that controls them (for example, central government).
- Sinking funds that are not separate institutional units are classified with the unit that controls them (i.e., the “parent” unit).

2.75 A variety of practices exist among sinking funds as to both their operation and the degree of control exercised by the “parent” unit (such as government):

- Some sinking funds retire or purchase only the parent unit’s securities for which they are established. Such sinking funds are normally not separate institutional units and are classified with the unit that controls them.
- Some sinking funds may also have been assigned other responsibilities, such as the conduct of government lending programs or even the collection of earmarked taxes. Such sinking funds are normally not separate institutional units and are classified with the unit that controls them.
- Other sinking funds may purchase and sell securities of other governments or institutions—domestic or external—usually seeking securities that have similar maturity dates. Such sinking funds may well be institutional units providing services on a market basis and are classified as public financial corporations.

2.76 The consolidation of a sinking fund’s stock positions and flows with those of other public sector units is discussed in Chapter 8 of this *Guide*.

³⁰An institutional unit is defined in Box 2.1.

f. Pension schemes

2.77 The means by which pensions are provided to persons in retirement varies from country to country. This section provides guidance on the sectorization of public sector units that provide pensions to individuals via **social security** and **employment-related schemes other than social security**.³¹

2.78 Together, social security and employment-related schemes other than social security constitute social insurance schemes.³² Social insurance pensions in all countries are provided, if at all, in part by general government and in part by employers. Social insurance pensions provided by general government are called **social security** and those by employers are called **employment-related schemes other than social security** (including government as employer).

2.79 Social security schemes that provide pension benefits are classified as social security funds in the general government sector if they are separate institutional units (see paragraphs 2.44–2.46). If such schemes are not separate institutional units, they are classified with the government unit that organizes and manages them. (See also paragraphs 3.53–3.59.)

2.80 Macroeconomic statistical systems do not recognize future pension obligations of social security schemes, but recommend to supplement balance sheet (and debt) information with information on social security obligations (including pensions). As explained in paragraph 17.192 of the *2008 SNA*, there are two problems with including future entitlements from social security as liabilities in the government’s balance sheet. The first is that reliable estimates of the entitlements may not be readily available. Secondly, even if these estimates exist, there is an argument that such estimates are of limited usefulness where

³¹Pensions can also be provided via social assistance. Although the benefits (including pensions) provided under social assistance and some social insurance schemes may be similar, the key distinction is that social insurance benefits are only paid if the beneficiary participates in the social insurance scheme, where participation is normally evidenced by the beneficiary or another on his behalf, having made qualifying contributions. Social assistance is paid without qualifying contributions having been made, though means-testing may be applied to applicants. Accordingly, there is no actual or imputed liability by the government to pay the benefits in the future. As a result, social assistance benefits are paid by general government units and pensions provided under social assistance are not discussed in this section.

³²Social security schemes are discussed in paragraphs 2.44–2.46 of this *Guide* and social insurance schemes are defined in footnote 23. Paragraphs 8.71–8.79 in the *2008 SNA* discuss the organization of social insurance schemes in detail. All social insurance schemes are founded on an employment relationship, even if participants are self-employed or currently unemployed.

government has the possibility of changing the basis on which entitlements are determined in the order to keep the entitlements within the bounds of what is feasible within the budget.

2.81 Regarding unfunded pension schemes sponsored by government and provided via social security,³³ the *2008 SNA* does allow some flexibility in the recording of the pension entitlements. The following criteria should be considered: The closer the pension scheme is to a social security scheme (see paragraph 2.44), the less likely its liabilities are to be included in government's balance sheet; the less the benefits are tailored to the specific characteristics of the individual and the more they are applicable to the population at large, the less likely its liabilities are to be included in government's balance sheet; the greater the ability of government to alter the benefit formula, the less likely its liabilities are to be included in the government's balance sheet. However, none of these criteria alone is necessarily decisive in determining whether the scheme's liabilities are recognized in government's balance sheet or not.³⁴

2.82 **Employment-related schemes other than social security** derive from an employer–employee relationship in the provision of pension and possibly other entitlements that are part of the conditions of employment and where responsibility for the provision of benefits does not devolve to general government under social security provisions. There are two employment-related pension schemes other than social security: a defined contributions scheme and a defined benefit scheme (see paragraph 3.54). For both types of schemes, a fund or segregated reserve is assumed to exist. For a defined contribution pension scheme a fund or segregated reserve must exist and for a defined benefit pension scheme a fund or segregated reserve may exist in reality, or it may be a notional fund.

2.83 A fund or segregated reserve (regardless of the type of pension scheme) may satisfy the definition of an institutional unit or not:

- If the fund is a **separate institutional unit**, it is an autonomous pension scheme. If this institutional unit is controlled by a public sector unit, this fund is classified as a public financial corporation. If not, this pension fund is a private financial corporation.

- If the fund is **not a separate institutional unit**, it may be part of the same institutional unit as the employer, or part of another financial institution, either an insurance corporation or a multiemployer scheme.
- If the fund is part of the same institutional unit as the employer and the employer is a public sector unit, this fund is classified with the public sector unit that controls the fund (for example, the budgetary central government, a state or local government, or a specific public corporation). If the employer is not a public sector unit, this fund is classified with the private sector unit that controls the fund.
- If the fund is part of another financial institution, and the insurance corporation or multiemployer schemes are controlled by public sector units, the fund is part of those public financial corporations. If the insurance corporation or multiemployer schemes are controlled by private sector units, the fund is part of those private financial corporations.

2.84 A notional pension fund is not a separate institutional unit and is classified with the employer unit, which may be any public sector or private sector unit, as relevant. An example is an unfunded, nonautonomous government employer pension scheme. Stocks and flows related to such a scheme are classified with the government unit that operates the scheme.

2.85 Pension liabilities (i.e., the pension entitlements of the beneficiaries) of employment-related pension schemes other than social security are debt liabilities of the respective institutional units. Chapter 3 discusses the instrument classification of pension entitlements.

g. Provident funds

2.86 *Provident funds are compulsory saving schemes that maintain the integrity of the contributions for individual participants.* Some governments create provident funds rather than providing social insurance benefits. Under provident fund arrangements, the compulsory contributions of each participant and of their employer on behalf of each participant are kept in a separate account and are withdrawable under specified circumstances such as retirement, unemployment, invalidity, and death. These contributions are then managed and invested to obtain an adequate return for each participant.

³³Private sector and public sector employees, including government's own employees.

³⁴See paragraphs 17.191–17.206 in the *2008 SNA* for more details.

2.87 The establishment of a provident fund raises the issue of whether this fund is classified a social security scheme, elsewhere in the general government, a public corporation, or outside the public sector. Provident fund arrangements as defined in the preceding paragraph cannot provide social insurance for the coverage of risks as this would sacrifice the integrity of individual accounts. These provident funds thus are excluded from social security schemes.

2.88 The classification of a provident fund controlled by government in the general government or financial corporations sectors is determined by the same sectorization principles that apply to any other entity, as described earlier in this chapter:

- A resident provident fund controlled by government and that satisfies the definition of an institutional unit is classified as a public financial corporation. Participants' contributions to the fund are recorded as an increase in its debt liabilities to individual participants and benefits payable reduce these debt liabilities.
- A resident provident fund controlled by government and that is not an institutional unit is classified with the government unit that controls it. Contributions to the fund are recorded as an increase in the general government unit's debt liabilities to individual participants and benefits payable reduce these debt liabilities.³⁵

2.89 It is possible that a provident fund may be established in such a way that it includes a social security scheme (social insurance) as well as aspects of a compulsory saving scheme. In such cases, the fund would be classified according to the scheme that predominates while still applying the sectorization principles outlined in this chapter.

h. Sovereign wealth funds

2.90 Some governments create special purpose government funds, usually called sovereign wealth funds (SWFs).³⁶ *Created and owned by the general government, SWFs hold, manage, or administer assets to achieve financial objectives, and employ a set of investment strategies which include investing in foreign financial assets. The funds are commonly established out of balance of payments surpluses, official*

³⁵The same treatment is applied for unfunded nonautonomous government employer pension schemes.

³⁶Although these funds may have various names, this section refers to them as "sovereign wealth funds" for ease of reference.

foreign currency operations, the proceeds from privatizations, fiscal surpluses, and/or receipts resulting from commodity exports.

2.91 The establishment of an SWF raises the issue of whether this fund is classified as part of the general government, a public corporation, or outside the public sector. The classification of an SWF controlled by government in the general government or financial corporations sectors is determined by the same sectorization principles that apply to any other entity, as described in this chapter (paragraphs 2.15–2.19 and 2.92–2.93).

2.92 A resident fund controlled by government may satisfy the definition of an institutional unit or not:

- If the fund is not an institutional unit, it is classified with the unit that controls it.
- If the resident fund is an institutional unit, it is classified as:
 - a public financial corporation if it is providing financial services on a market basis to government, and
 - a general government unit (an extrabudgetary fund or social security fund), if it satisfies the definition of a government unit described in paragraph 2.18.

2.93 If the fund is an entity incorporated abroad or quasi-corporation located abroad, it is classified as a separate institutional unit in the financial corporations sector of the economy in which the entity is legally incorporated, or in the absence of legal incorporation, is legally domiciled.

E. Accounting Principles

I. Residence

2.94 Total public sector debt consists of all debt liabilities of resident public sector units to other residents and nonresidents. Although the focus in this section is on the debt of resident public sector units, the discussion of residence also applies to creditor units.

2.95 *The residence of each institutional unit is the economic territory with which it has the strongest connection (i.e., its center of predominant economic interest).*³⁷ According to international statistical standards, residence is not based on nationality or legal

³⁷Residence is discussed in detail in the 2008 SNA, paragraphs 4.10–4.15 and Chapter 26.

criteria, although it may be similar to the concepts of residence used in many countries for exchange control, taxes, or other purposes. Nonresidents are units that are resident in any other economic territory.

2.96 *An economy consists of a set of resident institutional units*, including general government and public corporations. Economic territory also includes territorial enclaves physically located in the rest of the world (such as embassies, consulates, and military bases) because these entities are not, by formal agreement, subject to the laws of the host country. The case of SPEs of general government is discussed in paragraph 2.97. Corporations subject to the control of a government that is resident in a different economy from that government are not classified as public corporations; these are classified as private corporations in the resident economy. This is because they are not public companies related to the government of their economy of residence.

2.97 SPEs, “brass plate companies,” or “shell companies,” may be holders of public sector debt claims. These entities may have little or no physical presence in the economy in which they are legally incorporated or legally domiciled (for example, registered or licensed), and any substantive work of the entity may be conducted in another economy. In such circumstances, there might be debate about where the center of economic interest for such entities lies: residence is then attributed to the economy in which the entity is legally incorporated, or in the absence of legal incorporation, is legally domiciled. (See also paragraphs 4.96–4.100.)

2.98 The economic territory of an international organization³⁸ consists of the territorial enclaves over which it has jurisdiction. As a result, international organizations are not considered residents of any national economy, including the country in which they are located or conduct their affairs.

2.99 International organizations may be global or regional. Regional organizations arise from regional arrangements such as customs unions, economic uni-

ons, and monetary and currency unions.³⁹ Regional organizations consist of those institutions whose members are governments or monetary authorities of economies that are located in a specific region of the world. Regional organizations are not resident units of any country.

2.100 Some regional arrangements have been endowed with the authority to raise taxes or other compulsory contributions within the territories of the countries that are members of the authority. These are sometimes described as “supranational authorities.” Despite the fact that they fulfill some of the functions of government within each member country, they are not resident units of any country.

2.101 Financial positions between the regional organization and resident institutional units outside the general government or public sectors are not included in the public sector debt statistics of an individual country because these organizations are not residents of that country. When debt statistics are compiled for regional organizations as if they constituted a separate government, this *Guide* recommends that the various categories of financial positions be classified according to the member country that is the counterparty. Such an approach allows individual countries to evaluate the impact of regional organizations on their economy.

2.102 In contrast to regional organizations, which perform governmental functions, there may be regional enterprises that are owned by two or more governments and which operate as market producers. If the operation has legal entities or branches in each economy in which it operates, then identification of the units and their residence is clear. However, if they operate as a seamless entity in several economies, then the enterprise’s operations are prorated between the economies so that they are included in the public sector debt in the national economies in which they operate. The procedures should be applied consistently with the recording in macroeconomic statistics (see *2008 SNA* paragraph 4.13 and *BPM6* paragraphs 4.41–4.44).

³⁸*International organizations have the following characteristics: (a) The members of an international organization are either national states or other international organizations whose members are national states; (b) they are entities established by formal political agreements between their members that have the status of international treaties; (c) their existence is recognized by law in their member countries; and (d) they are created for various purposes, such as international financial organizations (for example, the IMF and World Bank) or to provide nonmarket services of a collective nature for the benefit of their member states (for example, peacekeeping, education, and policy issues).*

³⁹The regional central decision-making body in a currency union is usually the currency union central bank. A currency union central bank is a regional financial institution that acts as the common central bank for the member economies of the currency union. The currency union central bank is an institutional unit in its own right, owning assets and liabilities on own account, and is nonresident of any currency union member economy but resident in the currency union. For a complete discussion of currency unions and other regional arrangements, see *BMP6*, Appendix 3.

2. Time of recording

2.103 *Flows and stock positions are recorded when economic value is created, transformed, exchanged, transferred, or extinguished.*

2.104 Consistent with other macroeconomic statistics manuals, this *Guide* recommends use of the accrual basis for determining the time of recording flows. The accrual basis matches the time of recording with the timing of the events giving rise to the actual resource flows. With the cash basis, the time of recording would potentially diverge significantly from the time of the economic events to which the cash flows relate. The due-for-payment basis would usually record transactions after the resource flows have taken place. The timing of the commitment basis would precede the actual resource flows.

2.105 The accrual basis provides the most comprehensive information because all resource flows are recorded, including nonmonetary transactions (for example, transactions in kind) and other economic flows (i.e., flows other than transactions, such as revaluations).⁴⁰ Such comprehensive recording ensures the integration of flows and changes in the balance sheet (and in the outstanding stock of debt).

2.106 When a transaction in a financial asset occurs, the date of the change of ownership (the value date) is the day when both creditor and debtor should enter the claim and liability, respectively, in their books. This date may be specified to ensure matching entries in the books of both parties. If no precise date can be fixed, the date on which the creditor receives payment, or some other financial claim, is the determining factor. For example, loan drawings are entered in the accounts when actual disbursements are made and financial claims are established, not when an agreement is signed. On practical grounds, public sector debt may have to take account of the time of recording from the viewpoint of the public sector unit.

2.107 For other transactions, when a service is rendered, interest accrues, or an event occurs that creates a transfer claim (such as under nonlife insurance), a debt liability is created and exists until payment is made or forgiven. Like interest, service charges can accrue continuously. Although equity and investment fund shares are not debt instruments, dividends—once they “go ex-dividend”—are recorded in other accounts payable/receivable until paid.⁴¹

⁴⁰A pure cash basis will not record flows such as nonmonetary transactions, imputations, or other economic flows.

⁴¹When shares are quoted “ex-dividend,” it means that the buyer of the shares is not entitled to receive a declared dividend. This is

2.108 Interest accrues continuously on debt instruments, thus matching the cost of finance with the provision of capital. This is consistent with the approach taken in other macroeconomic statistical manuals and in commercial accounting standards. There are three measurement possibilities for interest accruing during a recording period:

- Interest is paid within the reporting period, in which case there is no impact on the gross debt position;
- Interest is not paid because it is not yet due for payment (referred to hereafter as “interest accrued and not yet due for payment”). For example, if interest is paid every six months on a loan, and the gross debt position is measured after the first three months of this period, the gross debt position increases by the amount of interest that has accrued during this three-month period; and
- Interest is not paid when due, in which case the gross debt position increases by the amount of interest that has accrued during the period and is in arrears at the end of the period.

a. Interest accrued and not yet due for payment

2.109 Interest that has accrued and is not yet due for payment should be included as part of the value of the underlying instruments. That is, the accrual of interest not yet due for payment continuously increases the principal amount outstanding of the debt instrument until these interest are paid. This is consistent with the approach followed by the *2008 SNA*, *GFSM*, *BPM6*, commercial accounting, and economic concepts.

2.110 When bonds (including deep-discounted and zero-coupon bonds), bills, and similar short-term securities are issued at a discount, or at a premium, the difference between the issue price and its face or redemption value at maturity is treated, on an accrual basis, as interest over the life of the security. When issued at a discount, the interest accruing in each period is recorded as being reinvested in the security, increasing the principal amount outstanding. This is consistent with the accrual of interest; it is not a holding gain for the security owner. When issued at a premium, the amount accruing each period reduces the value of the bond, as well as interest expense.

because the nature of the claim changes from being part of equity to a fixed amount which is not taken into account in the share price.

2.111 Some public sector debt recording systems have traditionally not recorded debt interest costs on an accrual basis. However, this is not in accord with international statistical standards, and has a downward bias on debt statistics because it omits accrued liabilities. It is also incompatible with measuring revenue and expense on an economically meaningful basis.

b. Arrears

2.112 *Arrears are defined as amounts that are both unpaid and past the due date for payment.* Only the amounts past due are classified as arrears—for example, in the case of overdue debt-service payments, only the overdue part is in arrears.

2.113 *A debt liability is in arrears when it has not been liquidated by its due-for-payment date, that is, when principal or interest payments are not made when due.*⁴² Compilers will need to collect supplementary information on debt-service payments in arrears because this information is not provided separately in an accrual basis of recording system.⁴³ Information on arrears is useful for various kinds of policy analyses and solvency assessments and should supplement the debt statistics where significant (see Chapter 5 for more details). Information on arrears should continue to be collected from their creation—that is, when payments are not made⁴⁴—until they are extinguished, such as when they are repaid, rescheduled, or forgiven by the creditor.

2.114 If debt payments are guaranteed by a third party, and the debtor defaults, the original debtor records arrears until the creditor calls the guarantee. Once the guarantee is called, the debt is attributed to the guarantor, and the arrears of the original debtor to the creditor are extinguished.⁴⁵ Depending on the contractual arrangements, in the event of a guarantee being called, the debt is not classified as arrears of the guarantor but, instead, is classified as a debt liability until any grace period for payment ends (see Chapter 4, Debt Assumption, for more details).

⁴²For example, at the date of maturity of a bond.

⁴³Nondebt liabilities may also be in arrears. For example, a financial derivatives contract is not a debt instrument, but if a financial derivative contract comes to maturity and a payment is required but not made, arrears are created.

⁴⁴In some cases, arrears arise for operational reasons (such as minor administrative delays) rather than from a reluctance or inability to pay. Nonetheless, in principle, such arrears should be recorded as arrears when outstanding at the reference date.

⁴⁵Often, the original debtor incurs a debt to the guarantor as part of the guarantee contract.

3. Valuation

2.115 In principle, *financial assets and liabilities (including debt instruments) should be valued in macroeconomic statistics at market value, that is, as if they were acquired in market transactions on the balance sheet reporting date (reference date).* For debt instruments other than debt securities, the lack of generally available market values means that these values have to be estimated by using the nominal value as a proxy.

2.116 In this *Guide*, **debt instruments should be valued on the reference date at nominal value, and, for traded debt securities, at market value as well.**⁴⁶ Both valuation bases provide useful information about debt.

2.117 The nominal value is the starting point for establishing legal liability and is used in vulnerability and sustainability analysis. Nominal valuation has the property that a change in creditworthiness does not, in itself, affect the value of debt.

2.118 The market value of a traded debt security is determined by its prevailing market price,⁴⁷ which is the best indication of the value that economic agents currently attribute to specific financial claims.⁴⁸ This is the valuation principle adopted in the *2008 SNA*, *GFSM*, and *BPM6*. As well as the nominal obligations expressed in the instrument, the market value takes into account perceptions of repayment risk, market interest rates, the liquidity of the market, the ability to use the instrument for repurchase (or similar types of) transactions, the risk aversion of the potential purchasers, and other opportunities on the market. The market value is particularly useful for creditors, as it is the amount that could be realized. Market value is preferred in national accounts and government finance statistics balance sheets, as well as monetary and financial statistics and international investment position data, where consistency of reporting between the debtor and creditor is essential. For debt statistics, nominal value is also important (see paragraphs 2.117 and 2.120). Although

⁴⁶Valuation principles of financial assets and liabilities are discussed in detail in the *GFSM*, Chapter 7; *BPM6*, Chapter 3; and *2008 SNA*, Chapter 13.

⁴⁷*Market prices for transactions are defined as amounts of money that willing buyers pay to acquire something from willing sellers; the exchanges are made between independent parties and on the basis of commercial considerations only, sometimes called “at arm’s length.”*

⁴⁸For lightly and nontraded securities, as well as in the Heavily Indebted Poor Countries (HIPC) Initiative, a representative market rate is used to discount future payments. This provides another measure of opportunity cost and is specific to countries in that program.

market values would potentially be desirable for instruments other than securities, the lack of well-developed markets and price quotations means that it is not generally feasible to do so.

2.119 The market value of a traded debt security is determined by the market price prevailing on the reference date to which the position relates. The ideal source of a market price for a traded debt security is an organized or other financial market in which the instrument is traded in considerable volume and the market price is listed at regular intervals. In the absence of such a source, market value can be estimated by discounting future payment(s) at an appropriate market rate of interest. If the financial markets are closed on the reference date, the market price that should be used is that prevailing on the closest preceding date when the market was open. In some markets the market price quoted for traded debt securities does not take account of interest that has accrued and is not yet due for payment (the “clean price”), but in determining market value this interest has to be included (the “dirty price”).

2.120 *The nominal value of a debt instrument is a measure of value from the viewpoint of the debtor: at any moment in time it is the amount that the debtor owes to the creditor.* This value is typically established by reference to the terms of a contract between the debtor and creditor. The nominal value of a debt instrument reflects the value of the debt at creation plus any subsequent economic flows, such as transactions (for example, repayment of principal) plus exchange rate and other valuation changes other than market price changes. This terminology and distinction between nominal and face value is adopted consistently in the macroeconomic statistics standards. However, there may be potential for confusion in some cases where practices have developed to use nominal and face value as interchangeable. Conceptually, the nominal value of a debt instrument can be calculated by discounting future interest and principal payments at the existing contractual interest rate(s)⁴⁹ on the instrument; these interest rates may be fixed or variable rate. For fixed-rate instruments and instruments with contractually predetermined interest rates, this principle is straight-

⁴⁹For each instrument, a single rate is generally used to discount payments due in all future periods. In some circumstances, using different rates for the various future payments may be warranted. Even if a single rate of discount is applied, dependent on the time until due, a different discount factor applies to each payment. For example, at a rate of discount of 10 percent, the discount factor for payments one year hence is 0.909 (or $1 \div (1 + 0.1)$), and for payments two years hence is 0.826 (or $1 \div (1 + 0.1)^2$), and so on.

forward to apply because the future payment schedule and the rate(s) to apply are known,⁵⁰ but it is less straightforward to apply to debt liabilities with variable rates that change with market conditions. The annex to this chapter provides examples of calculating the nominal value of a debt instrument by discounting future payments of interest and principal.

2.121 *The face value of a debt instrument is the undiscounted amount of principal to be repaid at maturity* and has been called nominal value in some cases. The use of face value as a proxy for nominal value in measuring the gross debt position can result in an inconsistent approach across all instruments and is not recommended. For example, the face value of deep-discount bonds and zero-coupon bonds includes interest not yet accrued, which runs counter to the accrual principle. (See Box 2.4 in the annex to this chapter for a comparison between nominal and face values.)

2.122 *The fair value of a debt instrument is its “market-equivalent” value and is defined as the amount for which a financial asset could be exchanged, or a liability settled, between knowledgeable, willing parties in an arm’s-length transaction.* It thus represents an estimate of what could be obtained if the creditor had sold the financial claim. Where available and relevant, the fair value of loan assets should be shown as a memorandum item.

2.123 The following two sections describe in detail the valuation of nontraded debt instruments and traded debt securities (as well as their counterpart financial assets).

a. Nontraded debt instruments

2.124 Debt instruments not generally traded (or tradable) in organized or other financial markets—namely loans, currency and deposits, and other accounts payable/receivable—should be valued at **nominal value**. The nominal value of a debt instrument could be less than the originally advanced amount if there have been repayments of principal, debt forgiveness, or other economic flows (such as arising from indexation) that affect the value of the amount outstanding. The nominal value of a debt instrument could be more than originally advanced because of, for example, the accrual of interest, or other economic flows.

⁵⁰For a debt liability on which the interest rate steps up, or down, by contractually predetermined amounts over its life, the time profile of the discount factors to be applied to future payments would be nonlinear, reflecting these step changes.

2.125 Loans are recorded at nominal value (i.e., the amount advanced plus interest accrued and not paid minus any repayments). The use of nominal values is partly influenced by pragmatic concerns about data availability. In addition, because loans are generally not intended for trading on the secondary market, estimating a market price can be subjective. Nominal value is also useful because it shows actual legal liability and the starting point of creditor recovery behavior. In some cases, loans may be traded, often at discount, or a fair value may exist or could be estimated. It is recognized that nominal value provides an incomplete view of the financial position of the creditor, particularly when the loans are nonperforming.⁵¹ In such cases, information on the nominal value, as well as the fair value, of nonperforming loan assets should be included as a memorandum item to public sector net debt statistics.⁵²

2.126 Deposits and other accounts payable/receivable should also be recorded at nominal value. They give rise to the same issues as loans with respect to nominal and fair values. Deposit assets at banks and other public deposit-taking corporations in liquidation also should be recorded at their nominal value until they are written off. If the difference between the nominal and fair values is significant, the fair value of such deposits should be shown separately as a memorandum item. The same treatment is applicable for any other cases of impaired deposits (i.e., where the public deposit-taking corporation is not in liquidation but is insolvent).

2.127 For debt instruments that do not accrue interest—for example, most trade credit and advances—the nominal value is the amount owed. If there is an unusually long time⁵³ before payment is due on an outstanding debt liability on which no interest accrues, the value of the principal should be reduced by an amount that reflects the time to maturity and an appropriate existing contractual rate, such as for similar debt instruments. Once the value of the principal is reduced,

⁵¹*Nonperforming loans are those for which (a) payments of principal and interest are past due by three months (90 days) or more; or (b) interest payments equal to three months (90 days) interest or more have been capitalized (reinvested to the principal amount) or payment has been delayed by agreement; or (c) evidence exists to reclassify a loan as nonperforming even in the absence of a 90-day past due payment, such as when the debtor files for bankruptcy.*

⁵²Measures of loan assets take into account impairments.

⁵³What constitutes an unusually long time in this context will depend on the circumstances. For example, for any given time period, the higher the level of interest rates, the greater is the opportunity cost of delayed payment.

interest should accrue until actual payment is made, at the rate used to discount the principal.

2.128 For some debt instruments, such as a loan, repayment may be specified in a contract in terms of commodities or other goods to be paid in installments over a period of time. At inception the value of the debt is equal to the principal advanced. When payments are made in the form of the good or commodity, the value of the principal outstanding will be reduced by the market value of the good or commodity at the time the payment is made.

2.129 The value of the commodities, other goods, or services to be provided for extinguishing a trade credit liability, including under barter arrangements, is established at the creation of the debt; that is, when the exchange of value occurred. However, as noted previously, if there is an unusually long time before payment, the value of the principal should be reduced by an amount that reflects the time to maturity and an appropriate existing contractual rate, and interest should accrue until actual payment is made.

2.130 The nominal value of arrears is equal to the value of the payments—interest and principal—missed, and any subsequent economic flows, such as the accrual of additional interest.

2.131 For nontraded debt instruments where the nominal value is uncertain, the nominal value can be calculated by discounting future interest and principal payments at an appropriate existing contractual rate of interest.

b. Traded debt securities

2.132 Debt securities traded (or tradable) in organized and other financial markets—such as bills, bonds, debentures, negotiable certificates of deposits, asset-backed securities, etc.—should be valued at both **nominal and market value**. For a traded debt security, nominal value can be determined from the value of the debt at creation and subsequent economic flows, while market value is based on the price at which it is traded in a financial market.

2.133 For debt securities that are usually tradable but for which the market price is not readily observable, the present value⁵⁴ of the expected stream of

⁵⁴Present value is the value today of a future payment or stream of payments discounted at some appropriate compounded interest rate. It is also referred to as the “time value of money” or “discounted cash flow.”

Box 2.2. General Methods for Estimating Market Value

When market price data are unavailable for tradable debt securities, there are two general methods for estimating market value or, as it is sometimes called, fair value:

- Discounting future cash flows to the present value using a market rate of interest; and
- Using market prices of financial assets and liabilities that are similar.

The first general method is to value financial assets and liabilities by **basing market value on the present, or time-discounted, value of future cash flows**. This is a well-established approach to valuation in both theory and practice. It calculates the market value of a financial asset or liability as the sum of the present values of all future cash flows. Market value is given by the following equation:

$$\text{Discounted present value} = \sum_{t=1}^n (\text{Cashflow})_t / (1 + i)^t$$

where $(\text{Cash flow})_t$ denotes the cash flow in a future period (t) , n denotes the number of future periods for which cash flows are expected, and i denotes the interest rate that is applied to discount the future cash flow in period t . This equation uses a single interest rate over the life of the instrument. It is also possible to use a variable interest rate.

The method is relatively easy to apply in valuing any financial asset or liability if the future cash flows are known with certainty or can be estimated, and if a market interest rate (or series of market interest rates) for that kind of maturity and credit-worthiness is observable.

Directly basing market value on the market price of a similar financial instrument is a well-established technique when a market price is not directly observable. For example, the market price of a bond with five-year remaining maturity might be based on the market price of a publicly traded five-year bond having comparable default risk. In other cases, it may be appropriate to use the market price of a similar financial instrument, but with some adjustment in the market value to account for differences in liquidity and/or risk level between the instruments.

In some cases, the financial asset or liability may possess some characteristics of each of several other financial instruments, even though its characteristics are not generally similar to any one of these instruments. In such cases, information on the market prices and other characteristics (for example, type of instrument, issuing sector, maturity, credit rating, etc.) of the traded instruments can be used in estimating the market value of the instrument.

future payments associated with the security can be used to estimate market value by using a market rate of interest. This and other methods of estimating market value are explained in Box 2.2. For unlisted securities, the price reported for accounting or regulatory purposes might be used, although this method is less preferable than those mentioned previously. Similarly, for deep-discount or zero-coupon bonds, the issue price plus amortization of the discount could be used in the absence of a market price.

2.134 When securities are quoted on markets with a buy-sell spread, the midpoint should be used to value the instrument. The spread is an implicit service of the intermediation service provider, such as a market platform or dealer paid by buyers and sellers.

c. Insurance, pension, and standardized guarantee schemes

2.135 These debt instruments are defined in Chapter 3. Unlike traded debt securities, debt instruments in the form of **insurance, pension, and standardized guarantee schemes** are not traded on a market. They also do not always have a formula that can be applied to

calculate a nominal value. However, the valuation principles that apply to these debt instruments are equivalent to market valuation.

2.136 Public sector units may incur liabilities for insurance, pension, and standardized guarantee schemes as operators of nonlife insurance, life insurance, and pension schemes, and as issuers of standardized guarantees.⁵⁵ These liabilities are valued as follows in macroeconomic statistics:

- **Nonlife insurance technical reserves.** The amount of the reserves for nonlife insurance covers premiums paid but not earned at the date for which the balance sheet (or debt) is drawn up plus the amount set aside to meet outstanding claims. This latter amount represents the present value of the amounts expected to be paid out in settlement of claims, including disputed claims, as well as allowances for claims for incidents which have taken place but have not yet been reported. Prepayments of nonlife insurance premiums (also

⁵⁵No liability is recognized for government promises to pay social security benefits, such as retirement pensions and health care, in the future. See paragraph 2.80.

known as unearned premiums) result from the fact that most insurance premiums are paid at the start of the period covered by the insurance. Therefore, at any given time part of the insurance premiums already paid have not yet been earned by the insurance enterprise because they cover risks in the future. The value of the prepaid or unearned premiums is determined proportionally. For example, if an annual policy with a premium of 120 currency units comes into force on April 1 and accounts are being prepared for a calendar year, the premium earned in the calendar year is 90. The prepaid or unearned premium is the amount of the actual premium received that relates to the period past the accounting point. In the example just given, at the end of the accounting period there will be an unearned premium of 30, intended to provide cover for the first three months of the next year.

- **Life insurance and annuities entitlements.** The amount to be recorded as the stock positions for life insurance and annuities entitlements is similar to that for nonlife insurance technical reserves in that it represents reserves to meet future claims already accrued. However, in the case of life insurance, the level of the reserves is considerable and represents the present value of all expected future claims.⁵⁶
- **Pension entitlements under defined-benefit schemes.** These entitlements are determined by formula agreed in advance. The liability of a defined-benefit pension scheme (including nonautonomous pension funds and unfunded pension schemes) is the present value of the promised benefits.
- **Pension entitlements under defined-contribution schemes.** These entitlements are determined according to the performance of financial assets acquired with the future pensioner's contributions. The liability of a defined-contribution pension fund is the current market value of the fund's assets.⁵⁷
- **Provisions for calls under standardized guarantee schemes.** The value of the liabilities

in the accounts of the guarantor is equal to the present value of the expected calls under outstanding guarantees, net of any recoveries the guarantor expects to receive from the defaulting borrowers, a similar approach as for nonlife insurance. The liability is called provisions for calls under standardized guarantees.

2.137 The value of a public sector unit's assets in the form of insurance, pension, and standardized guarantee schemes—as a policyholder—is determined as the amount of prepaid premiums plus estimates for claims not yet paid to the public sector unit.

2.138 In general, insurance companies and operators of pension funds and standardized guarantee schemes make actuarial estimates of their liabilities under these schemes. These estimates will be the usual source to compile statistics for this debt instrument.

4. Currency

a. Unit of account

2.139 The compilation of the debt statistics, particularly external debt, is complicated by the fact that the liabilities may be expressed initially in a variety of currencies or perhaps in other standards of value, such as SDRs. The conversion of these liabilities expressed in another currency, or a commodity into a reference unit of account, is a requisite for the construction of consistent and analytically meaningful debt statistics. If a significant portion of public sector debt is in foreign currency units, debt data by currency unit are needed for compiling meaningful statistics, as well as policy reasons, such as international liquidity management.

2.140 From the perspective of the national compiler, the domestic currency unit is the obvious choice for measuring public sector external debt. Denominating external debt in such a way is compatible with the national accounts and most of the economy's other economic statistics. However, if the currency is subject to significant fluctuation relative to other currencies, a statement denominated in another currency may also be useful because valuation changes could dominate interperiod comparisons.

b. Currency conversion

2.141 The most appropriate exchange rate to be used for conversion of debt (and financial assets in the form of debt instruments) denominated in other currencies into domestic currency is the market (spot) rate

⁵⁶In the commercial accounts of insurance corporations, some of these will be described as provisions for bonuses and rebates. This is the result of the insurance industry's practice of smoothing benefits over time and, possibly, retaining some benefits until the policy matures.

⁵⁷The basis on which pension entitlement is calculated is described in detail in Chapter 17 of the 2008 SNA.

prevailing on the balance sheet date. The **midpoint between buying and selling rates** should be used.⁵⁸

2.142 For debt transactions, in principle, the actual exchange rate applicable to each transaction should be used for currency conversion. The use of a daily average exchange rate for daily transactions usually provides a good approximation. If daily rates cannot be applied, average rates for the shortest period should be used. Some transactions occur on a continuous basis, such as the accrual of interest over a period of time. For such flows, therefore, an average exchange rate for the period in which the flows occur should be used for currency conversion. More details on currency conversion are given in *BPM6* paragraphs 3.104–3.108.

c. Domestic and foreign currency

2.143 For an economy, a domestic currency is distinguished from foreign currency. ***Domestic currency is that which is legal tender in the economy and issued by the monetary authority for that economy; that is, either that of an individual economy or, in a currency union, that of the common currency area to which the economy belongs.*** All other currencies are foreign currencies.

2.144 Under this definition, an economy that uses as its legal tender a currency issued by a monetary authority of another economy—such as U.S. dollars—or of a common currency area to which it does not belong, should classify the currency as a foreign currency, even if domestic transactions are settled in this currency. Unallocated gold accounts and other unallocated accounts in precious metals giving title to claim the delivery of gold or precious metal are treated as denominated in foreign currency.

2.145 SDRs are considered to be foreign currency in all cases, including for the economies that issue the currencies in the SDR basket. Any other currency units issued by an international organization, except in the context of a currency union (see paragraph 2.144), are considered foreign currency.

⁵⁸For conversion of debt in a multiple exchange rate system, the rate on the balance sheet date for the actual exchange rate applicable to specific debt liabilities (and corresponding financial assets) should be used. A multiple exchange rate system is a scheme for which there are schedules of exchange rates, set by the authorities, to apply different exchange rates to various categories of transactions or transactors.

d. Currency of denomination and currency of settlement

2.146 A distinction should be made between the currency of denomination and the currency of settlement. ***The currency of denomination is determined by the currency in which the value of flows and stock positions is fixed as specified in the contract between the parties.*** Accordingly, all cash flows are determined using the currency of denomination and, if necessary, converted to the domestic currency or another unit of account for the purpose of settlement or compilation of accounts. The currency of denomination is important for distinguishing transaction values and holding gains and losses. This *Guide* recommends the use of currency of denomination in designating the currency composition of the debt (see Chapter 5).

2.147 The currency of settlement may be different from the currency of denomination. Using a currency in settlement that is different from the currency of denomination simply means that a currency conversion is involved each time a settlement occurs. The currency of settlement is important for international liquidity and measurement of potential foreign exchange drains, as well as in defining reserve assets.

2.148 Debt instruments settled in domestic currency include instruments with both the amount to be paid at maturity and all periodic payments (such as coupons) linked (or indexed) to a foreign currency. In this instance the currency of denomination is the foreign currency. Some debt instruments are denominated in more than one currency. However, if the amounts payable are linked to one specific currency, then the liability should be attributed to that currency.

5. Maturity

2.149 ***The maturity of a debt instrument refers to the time until the debt is extinguished⁵⁹ according to the contract between the debtor and the creditor.*** A debt instrument's maturity can be either short term or long term and such a classification provides information on the liquidity dimensions of debt:

- Short term is defined as payable on demand⁶⁰ or with a maturity of one year or less.

⁵⁹In the statistical guidelines this time period is from the date of incurrence or reference (original/remaining maturity, respectively) of the debt liability to the date at which the liability will be extinguished.

⁶⁰“Payable on demand” refers to a decision by the creditor; an instrument where the debtor can repay at any time may be short or long term.

- Long term is defined as having a maturity of more than one year or with no stated maturity (other than on demand, which is included in short term).

2.150 Maturity may relate to:

- Original maturity, which is the period from the issue date until the final contractually scheduled payment date; or
- Remaining maturity or residual maturity, which is the period from the reference date (balance sheet date) until the final contractually scheduled payment date.

2.151 This *Guide* recommends a three-way classification that allows for deriving debt statistics on both original and remaining maturity bases:

- (a) short-term debt on an original maturity basis;
- (b) long-term debt due for payment within one year or less;⁶¹ and
- (c) long-term debt due for payment in more than one year.

2.152 To derive short-term debt on a remaining maturity basis, item (b) can be combined with item (a). To derive long-term debt on an original maturity basis, item (b) can be combined with item (c).

2.153 The information content provided is one reason for recommending such an approach. Short-term debt on an original maturity basis is identifiable from the gross external debt position. Measuring the value of outstanding long-term public sector debt (original maturity) falling due in one year or less may raise practical difficulties, in which instance, one proxy measure that might be used is the undiscounted value of principal payments on long-term public sector debt liabilities (original maturity basis) due to mature in one year or less. This proxy measure is incomplete in its coverage of interest payments falling due in the coming year but can be compiled using the principles for projecting payments in a debt-service schedule (see Chapter 5).

⁶¹Conceptually, at the reference date the value of outstanding long-term external debt (original maturity) due to be paid in one year or less is the discounted value of payments to be made in the coming year, both interest and principal.

6. Consolidation

2.154 *Consolidation is a method of presenting statistics for a set of units (or entities) as if they constituted a single unit.* GFSM recommends consolidating statistics for a group of units. In particular, statistics for the general government sector and each of its subsectors should be presented on a consolidated basis. When units of the public sector are included in a presentation, the statistics for public corporations should be presented in two ways: as a separate public corporations subsector and together with general government units. In both cases, the statistics should be presented on a consolidated basis within each group.

2.155 Consolidation involves the elimination of all transactions and debtor-creditor relationships that occur among the units being consolidated. In other words, a transaction or stock position of one unit is paired with the same transaction or stock position as recorded for the second unit, and both transactions and stock positions are eliminated. For example, if one general government unit owns a bond issued by a second general government unit and data for the two units are being consolidated, then the stocks of bonds held as assets and liabilities are reported as if the bond did not exist. If a central bank holds general government deposits and/or debt, these financial assets and liabilities, and the data for these two units are being consolidated, then the stocks of financial assets and liabilities for the consolidated public sector are reported as if these deposits and/or debt liabilities did not exist.

2.156 When compiling public sector statistics, two types of consolidation may be necessary:

- First, consolidation **within** a particular subsector (for example, consolidation within the central government or public nonfinancial corporations subsectors, respectively) to produce consolidated statistics for that particular subsector.
- Second, consolidation **between** subsectors of the public sector (for example, between the general government sector, the public nonfinancial corporations subsector, and the public financial corporations subsector) to produce consolidated statistics for a particular grouping of the public sector.

2.157 The mechanics of consolidation, as well as which debt instruments should be consolidated from a practical viewpoint, are discussed in detail in Chapter 8.

Annex: The Accrual of Interest—How Should It Be Implemented?

This annex, which is largely based on Chapter 11 of BPM6, presents the conceptual framework for the accrual of interest, and a more detailed discussion on how to apply the accrual principle, by type of debt instrument.

I. Introduction

2.158 *Interest is a form of investment income that is receivable by the owners of certain kinds of financial assets (SDRs, deposits, debt securities, loans, and other accounts receivable) for putting these financial and other resources at the disposal of another institutional unit.*

2.159 Interest should be recorded on an accrual basis; that is, interest is recorded as accruing continuously over time to the creditor on the amount outstanding. Depending on the contractual arrangements, the rate at which interest accrues can be a percentage of the amount outstanding, a predetermined sum of money, a variable sum of money dependent on a defined indicator, or some combination of these methods. Under the accrual basis, as interest accrues, the amount of outstanding debt increases; that is, interest accrued and not yet paid is added to the value of the outstanding debt. What is commonly referred to as interest payments, therefore, are transactions that reduce the debtor's outstanding debt liability.

2.160 Periodic debt service payments, which reduce the outstanding debt liability, may cover part or whole of the interest accrued during that period as well as repaying the initial principal (the amount initially advanced or borrowed is also known as initial principal). From a cash accounting perspective, periodic debt service payments can be distinguished as interest payments or principal payments.

2.161 At the outset, some key principles for applying the accrual of interest principle in both the nominal and market value presentations of public sector debt are worth noting:

- All financial instruments bearing interest are included;
- The accrual of interest can be calculated by compound interest method, as illustrated in Box 2.3;
- All instruments issued at a discount are treated in a similar manner; and
- The accrual of interest also applies to variable-rate and index-linked instruments.

2. Conceptual framework for the accrual of interest

a. Interest on debt securities with known cash flows

2.162 Interest is the amount debtors will have to pay their creditors over and above the repayment of the amounts advanced by the creditors. Interest accrues on a debt instrument for its entire life as determined by the conditions set at inception of the instrument. Accrued interest is determined using the original yield-to-maturity. A single, effective yield—established at the time of the security issuance—is used to calculate the amount of accrued interest in each period to maturity. This approach is known as the “debtor approach.”

2.163 For debt securities for which the issue and redemption prices are the same (i.e., issued at par), total interest accrued over the whole life of the securities are given by the periodic coupon payments. If coupon payments are fixed, accrued interest can be calculated by allocating the coupon payment to the relevant period using a daily compound formula. (A coupon payment is a contractually agreed cash amount paid by the issuer of the debt security to the holder, at each coupon date. It is calculated from the coupon rate, face value of the debt security, and the number of payments per year, and may differ from the accrued interest.)

2.164 For certain debt securities, such as short-term bills of exchange and zero-coupon bonds, the debtor is under no obligation to make payments to the creditor until the liability matures. In effect, the debtor's liability is discharged by a single payment covering both the amount of the funds originally borrowed and the interest accrued and accumulated over the entire life of the liability. Instruments of this type are said to be discounted because the amount initially borrowed is less than the amount to be repaid. The difference between the amount to be repaid at the end of the contract and the amount originally borrowed is interest that must be allocated over the accounting periods between the beginning and end of the contract. The interest accruing in each period is recorded as an expense, increasing the debtor's liability in the balance sheet for that instrument with the same amount. An example is shown as Box 2.4.

2.165 A slightly more complicated case is a deep-discount bond, which is a discounted instrument that also requires periodic coupon payments. In such cases, interest accrued is the amount of the coupon payable periodically plus the amount of interest accruing in each period attributable to the difference between the redemption price and the issue price. Interest accrued

Box 2.3. Compound Interest Calculation

a. Basic compound interest

The basic compound interest formula is:

$$\text{Future Value}_n = \text{Present value} \times (1 + \text{Interest rate})^n$$

where n = the number of accounting periods in which interest accrues over the entire period and “interest rate” refers to the annual interest rate.

For example, interest of 5 percent per year accrues on 100 at the end of 1 year:

$$105.00 = 100 \times (1 + 0.05)^1$$

b. Continuous compounding of interest

In macroeconomic statistics, interest accrues continuously and is added to the outstanding principal on a continuous basis. At the limit, interest would accrue every instant. In practice, interest could be calculated, for example, daily, monthly, quarterly, or annually. Therefore:

$$\text{Future Value}_n = \text{Present value} \times [1 + (\text{Interest rate} \div p)]^{np}$$

where p = number of times interest accrues per year, and n = the number of accounting periods in which interest accrues over the entire period (i.e., $p \times$ entire period over which interest accrues).

For example, interest of 5 percent per year accrues continuously on 100 for 1 year. Total accrued interest is then, if:

$$\text{Daily:} \quad 105.127 = 100 \times [1 + (0.05 \div 365)]^{1 \times 365}$$

$$\text{Monthly:} \quad 105.116 = 100 \times [1 + (0.05 \div 12)]^{1 \times 12}$$

$$\text{Quarterly:} \quad 105.095 = 100 \times [1 + (0.05 \div 4)]^{1 \times 4}$$

$$\text{Annually:} \quad 105.000 = 100 \times [1 + (0.05 \div 1)]^{1 \times 1}$$

c. Accrual of interest from discount/premium on debt securities

Using the above continuous compounding of interest formula, interest accruing to a debt security issued at a discount can be calculated. From the basic formula:

$$\text{Maturity or future value} = \text{Issue price or present value} \times [1 + (\text{Interest rate} \div p)]^{np}$$

where p = number of times interest accrues per year, and n = the number of accounting periods in which interest accrues over the entire period (i.e., $n \times$ entire period over which interest accrues)

follows that:

$$[1 + (\text{Interest Rate} \div p)] = (\text{Maturity value} \div \text{Issue price})^{1 \div (np)}$$

For example, a security with a face value of 100 and a maturity of 5 years is issued at 80. The interest accrued from the discount on the debt security is calculated monthly. The interest rate is thus:

$$(100 \div 80)^{1 \div (12 \times 5)} = 1.003726 \text{ (0.3726 percent per month)}$$

The outstanding principal at the end of month 1 is thus $1.003726 \times 80 = 80.30$ (interest is thus 0.30); at the end of month 2 it is $1.003726 \times 80.30 = 80.60$; and at the end of month 60 (5 years), the value of the outstanding principal is 100. Total interest accrued from the discount on the debt security is 20 ($100 - 80$) and this interest excludes any possible coupon interest payments, which would be an additional interest component (for example a fixed coupon).

Interest accrued from a premium on debt securities is negative.

from the periodic coupon payments is derived as explained in paragraph 2.163. Interest accrued from the amortization of the discount (the difference between the issue and redemption price) is explained in paragraph 2.164. Although amortization rates could be calculated on monthly or quarterly bases, amortization at a daily rate facilitates the allocation of the amortized discount to the individual reporting periods.

2.166 Debt securities can also be issued at a premium rather than at a discount. The method of determining interest accrued is identical to the case of a discounted instrument except that, when issued at a premium, the difference between the redemption and issue price is amortized over the life of the instrument and reduces (rather than increases) the amount of interest accruing in each period.

Box 2.4. Numerical Example of the Calculation of Interest Accrual on a Zero-Coupon Bond

A bond is issued on January 1, year 1, with 100 repayable in five years, with no coupons.

If the market rate of interest at the time of issue is 10 percent for that maturity and rating, then the bond will be issued at a price of 62.09 (i.e., from the formula in Box 2.3: $100 \div [1 + 0.10]^5$). Interest is calculated on an annual basis.

The annual interest calculations and associated values of the outstanding principal are as follows:

	Opening nominal value of bond (a)	Accrued interest transactions (b)	Closing nominal value of bond (c)=(a)+(b)	Opening observed market value of bond (d)	Other economic flows (revaluations) (f)=(g)-(d)-(b)	Closing observed market value of bond (g)	Face value of bond
Year 1	62.09	6.21	68.30	62.09	1.70	70.00	100.00
Year 2	68.30	6.83	75.13	70.00	-5.70	71.13	100.00
Year 3	75.13	7.51	82.64	71.13	1.85	80.49	100.00
Year 4	82.64	8.26	90.91	80.49	6.25	95.00	100.00
Year 5	90.91	9.09	100.00	95.00	-4.09	100.00	100.00
Year 1-5		37.91			0.00		

Notes:

- The interest in each period is fixed at inception (debtor approach).
- The sum of the interest over the five years is 37.91, equal to the difference between 62.09 (the price at issue) and 100 (the price at redemption).
- Interest accrued in each year increases in line with the growing accumulated value of accrued interest.
- The corresponding entry to the interest accrued is an increase in debt securities liabilities in the balance sheet.
- The market value of the bond in this example is given, and the revaluations (holding gains/losses) are calculated as a residual (i.e., the difference between the observed market value and accrued interest). The revaluations stem from fluctuations in the quoted market price of the bond, for example, due to changes in market interest rates. There are no revaluations from exchange rate changes in this example.
- The nominal value of the bond is calculated as the issue price plus accrued interest.
- The face value of the bond is 100 in each year. Thus, until maturity, using face value overstates the value of the debt.

b. Index-linked debt securities

2.167 With an index-linked debt security, an indexation mechanism links the amount to be paid at maturity or coupon payments (or both) to an indicator agreed by the parties. The values of the indicators are not known in advance. For debt securities with indexation of the amount to be paid at maturity, these amounts may be known only at the time of redemption. As a result, total interest flows before redemption cannot be determined with certainty. To estimate interest accrued before the values of the reference indicators are known, some proxy measures need to be used. In this regard, it is useful to distinguish the following three arrangements:

- Indexation of coupon payments only with no indexation of amount to be paid at maturity,
- Indexation of the amount to be paid at maturity with no indexation of coupon payments, and

- Indexation of both the amount to be paid at maturity and coupon payments.

2.168 The following principles described for index-linked debt securities apply to all index-linked debt instruments.

2.169 When only coupon payments are index-linked, the full amount resulting from indexation is treated as interest accruing during the period covered by the coupon. To the extent that data are compiled after the coupon payment date, the value of an index is known and can be used to estimate that payment. If the data are compiled before the coupon payment date, the movement of the index for the period covered by the data can be used to calculate interest accrued.

2.170 When the amount to be paid at maturity is index-linked, the calculation of interest accrued becomes uncertain because the redemption value is

Box 2.5. Numerical Example of the Calculation of Interest Accrual on an Index-Linked Bond—Broad-Based Index

A bond is issued on January 1, year 1, at a price of 1,000 for five years, with no coupons, indexed to a broad price index. The index value at the beginning of the period is 100.

The index and bond values, with the derived interest and revaluations (holding gains/losses) are as follows (assume no other economic flows other than revaluations):

	Broad price index: December 31	Accrued interest	Other economic flows (revaluations)	Observed market value of bond: December 31	Nominal value of bond: December 31
Year 1	107.0	$70 = ([107 \div 100] - 1) \times 1,000$	-12	1,058	1,070
Year 2	113.0	$60 = ([113 \div 107] - 1) \times 1,070$	-17	1,101	1,130
Year 3	129.0	$160 = ([129 \div 113] - 1) \times 1,130$	58	1,319	1,290
Year 4	148.0	$190 = ([148 \div 129] - 1) \times 1,290$	10	1,519	1,480
Year 5	140.3	$-77 = ([140.3 \div 148] - 1) \times 1,480$	-39	1,403	1,403
Year 1–5		$403 = ([140.3 \div 100] - 1) \times 1,000$	0		

Notes:

- Total interest over the five years (i.e., 403) is determined by the movement of the index (i.e., a 40.3 percent increase).
- Because this is a bond, revaluations also arise because of changes in market conditions, such as changes in market interest rates, credit ratings, and expectations about the future path of the index. However, these revaluations are zero over the life of the bond when it is repaid at its indexed value. In this example, the revaluations are calculated as a residual (i.e., the difference between the observed market value and accrued interest).
- Negative values of interest can arise in the periods when the index declines.
- The amount corresponding to the interest accrued is recorded as an increase in debt securities in the financial account.
- Fluctuations in market interest rates cause changes in the value of the bond, but do not affect the calculation of interest.
- The nominal value of the bond is calculated as the issue price plus accrued interest, and corresponds with the indexed value of the bond.

unknown; in some cases the maturity time may be several years in the future. There are two approaches depending on whether the index is based on a broad or narrow reference item. These approaches are discussed in more detail in *BPM6*, paragraphs 11.59–11.65.

2.171 When both the amount to be paid at maturity and coupon payments are indexed to a **broad-based** reference item (such as the consumer price index), interest accrued during an accounting period can be calculated by summing two elements:

- the amount resulting from the indexation of the coupon payment (as described in paragraph 2.169) that is attributable to the accounting period, and
- the change in the value of the amount outstanding between the end and beginning of the accounting period arising from the movement in the relevant index.

2.172 Box 2.5 illustrates an example of the calculation of the accrual of interest on an index-linked bond using a broad-based index.

2.173 When the amount to be paid at maturity, or when the coupon payments and the amount to be paid at maturity, are indexed to a **narrow index** (such as a gold index) that includes a holding gain motive, interest accrued for any accounting period can be determined by fixing the yield-to-maturity at issuance. Interest accrues over the life of the instrument at a rate that reconciles the difference between the issue price and the market expectation, at inception, of all payments that the debtor will have to make over the life of the instrument. This approach records as expense the yield-to-maturity at issuance, which incorporates the results of the indexation that are foreseen at the moment the instrument was created. Any deviation of the underlying index from the originally expected path leads to holding gains or losses that will not normally cancel out over the life of the instrument.⁶²

⁶²Changes in the value of the instrument arising from indexation—whether narrow or broad—are included in its nominal value.

2.174 Because debt instruments with both the amount to be paid at maturity and coupon payments indexed to foreign currency are treated as though they are denominated in that foreign currency, interest, other economic flows, and stock positions for these instruments should be calculated using the same principles that apply to foreign-currency-denominated instruments. Interest should accrue throughout the period using the foreign currency as the currency of denomination and converted into the domestic currency using mid-point market exchange rates. Similarly, the amount outstanding should be valued using the foreign currency as the unit of account with the end of period exchange rate used to determine the domestic currency value of the entire debt instrument (including any accrued interest). Changes in market values of debt securities due to exchange rate movements and interest rate changes are treated as revaluations.

c. Debt securities with embedded derivatives

2.175 For debt securities with embedded derivatives, such as call, put, or equity conversion options, the accounting for accrued interest is the same as for securities that do not have such features. For all periods leading up to the exercise of the option, the interest accrued is unaffected by the presence of the option. When the embedded option is exercised, the securities are redeemed and accrual of interest ceases.

3. Accrual of interest on nonperforming debt

2.176 The amount of nonperforming debt outstanding remains a legal liability of the debtor and interest should continue to accrue, unless the liability has been extinguished (for example, by repayment or as a result of a bilateral arrangement between debtor and creditor).

2.177 Following the accrual principle, arrears on debt repayments (both periodic payments and amount to be paid at maturity) that are not paid on due dates should continue to be shown in the same instrument until the liability is extinguished. For arrears arising from a debt contract, interest should accrue at the same interest rate as on the original debt, unless a different interest rate for arrears was stipulated in the

original debt contract, in which case this stipulated interest rate should be used. The stipulated rate may include a penalty rate in addition to the interest rate on the original debt. If the terms and characteristics of the financial instrument automatically change when it goes into arrears, and if the classification of the loan is changed, the change should be recorded as a reclassification in the other changes in financial assets and liabilities account (see paragraphs 2.112–2.114 for treatment of arrears). If the contract is renegotiated, transactions are recorded as a new instrument is created. If an item is purchased on credit and the debtor fails to pay within the period stated at the time the purchase was made, any extra charges incurred should be regarded as interest and accrue until the debt is extinguished.

2.178 When a one-off guarantee covering a debt that becomes nonperforming is activated, the guarantor assumes the liability for that debt. From the time of activation of the debt guarantee, the interest accrued becomes the liability of the guarantor. On the other hand, a guarantor may make payments for interest that are due on loans or other interest-bearing liabilities of other units for which it acts as the guarantor, without the guarantee being activated. Any interest accruing before the guarantor assumes the debt is a liability of the original debtor and any payments by the guarantor should be classified on the basis of contractual arrangements between the guarantor and the original debtor. More details are provided in Chapter 4.

4. Interest on financial leases

2.179 The implication of treating a financial lease as a loan is that interest accrues on the loan. The lessor is treated as making a loan to the lessee equal to the market value of the asset, this loan being gradually paid off over the period of the lease. The rate of interest on the imputed loan is implicitly determined by the total amount payable in rentals over the life of the lease (including any value to be “repaid” at maturity) in relationship to the market value of the asset at the time of lease initiation. Financial leases are discussed in detail in Chapter 4.

Identification of Debt Instruments and Institutional Sectors

This chapter describes debt instruments and the classification of debt according to the institutional sector of the creditors. The terminology of the 2008 SNA is followed.

A. Introduction

3.1 Debt is a subset of liabilities in the balance sheet. This chapter gives a brief overview of the balance sheet and its components, and shows the relationship between debt and the rest of the balance sheet. It also discusses the classification of debt instruments in detail. Lastly, this chapter discusses the classification of debt instruments according to the institutional sector of the counterparty to the instrument.

B. Overview of a Balance Sheet

3.2 *A balance sheet is a statement of the values of the stocks of assets owned and of the liabilities owed by an institutional unit or group of units, drawn up in respect of a particular point in time.*¹ A balance sheet is typically compiled at the end of each accounting period, which is also the beginning of the next accounting period. In macroeconomic statistics balance sheets, a distinction is made between nonfinancial assets, financial assets, liabilities, and net worth.

3.3 *Net worth of an institutional unit (or grouping of units) is the total value of its assets minus the total value of its outstanding liabilities* and is an indicator of wealth. Net worth can also be viewed as a stock position resulting from the transactions and other economic

flows² of all previous periods. *Net financial worth of an institutional unit (or grouping of units) is the total value of its financial assets minus the total value of its outstanding liabilities.*³

3.4 Only economic assets are recorded in the macroeconomic statistical systems. *Economic assets are entities (i) over which economic ownership rights⁴ are enforced by institutional units, individually or collectively, and (ii) from which economic benefits may be derived by their owners by holding them or using them over a period of time.*

I. Liabilities and financial assets

3.5 *A liability is established when one unit (the debtor) is obliged, under specific circumstances, to provide funds or other resources to another unit (the creditor).* Normally, a liability is established through a legally binding contract that specifies the terms and conditions of the payment(s) to be made, and payment according to the contract is unconditional. As mentioned in Chapter 2, paragraph 2.8, liabilities can also be created by the force of law, and by events that require future transfer payments.

3.6 Whenever a liability exists, the creditor has a corresponding financial claim on the debtor. *A financial claim is an asset that typically entitles the owner of the asset (the creditor) to receive funds or other resources from another unit, under the terms of a liability.* Like liabilities, financial claims are uncondi-

¹Balance sheets can be compiled for the public sector, the general government sector, a subsector of the general government sector, or any other public sector unit or grouping of units.

²Other economic flows are flows other than transactions. There are two types of other economic flows: holding gains/losses (revaluations), and other changes in the volume of assets and liabilities. See Appendix 2 for more details.

³If calculated the other way around, i.e., as the total value of outstanding liabilities minus the total value of financial assets, the result may be referred to as net financial liabilities.

⁴Economic ownership rights entitle the institutional unit to claim the benefits associated with the use of the asset in the course of an economic activity by virtue of accepting the associated risk.

tional.⁵ A financial claim provides benefits to the creditor, such as by acting as a store of value, or by possibly generating interest, other property income, or holding gains. Financial claims consist of equity and investment fund shares, debt instruments, financial derivatives and employee stock options, and monetary gold in the form of unallocated gold accounts. *Financial assets consist of financial claims plus gold bullion held by monetary authorities as a reserve asset.*

3.7 Debt instruments and equity and investment fund shares are financial instruments that are created when one unit provides funds or other resources (for example, goods in the case of trade credit) to a second unit and the second unit agrees to provide a return in the future. In contrast, financial derivatives are financial instruments of which the underlying contracts involve risk transfer. Thus, rather than supplying funds or other resources, a derivative contract shifts the exposure to the effect of a change in the value of an item between the parties, without a change in ownership of that item.

3.8 In many cases, liabilities (and their corresponding financial claims) are explicitly identified by formal documents expressing the debtor-creditor relationship. In other cases, liabilities are imputed to reflect the underlying economic reality of a transaction, such as the creation of a notional loan when an asset is acquired under a financial lease. Regardless of how a liability is created, it is extinguished when the debtor pays the sum agreed in the contract.⁶

3.9 Equity and investment fund shares issued by corporations and similar legal forms of organization are treated as liabilities of the issuing units even though the holders of the claims do not have a fixed or predetermined monetary claim on the corporation. Equity and investment fund shares do, however, entitle their owners to benefits in the form of dividends and other ownership distributions, and they often are held with the expectation of receiving holding gains. In the event the issuing unit is liquidated, shares and other equities become claims on the residual value of the unit after the claims of all creditors have been met.

3.10 If a public corporation has formally issued shares or another form of equity, then the shares are a liability of that corporation and an asset of the

government or other unit that owns them. If a public corporation has not issued any type of shares, then the existence of other equity is imputed, reflecting the claim of the public sector unit on the residual value of the public corporation.

3.11 Only actual liabilities (and assets) are included in the balance sheet⁷:

- Contingent assets and liabilities are not recognized as financial assets and liabilities prior to the condition(s) being fulfilled.
- Amounts set aside in business accounting as provisions to provide for a unit's future liabilities, either certain or contingent, or for a unit's future expenditures, are not recognized in the macroeconomic statistical systems.
- No liability is recognized for government promises to pay social security benefits, such as retirement pensions and health care, in the future (see paragraph 2.80).⁸
- Lines of credit, letters of credit, and loan commitments assure funds will be made available in the future, but no financial asset (and liability) in the form of a loan is created until funds are actually advanced.
- Uncalled share capital is contingent unless there is an obligation to pay the amount.
- Environmental liabilities, which are probable and measureable estimates of future environmental cleanup, closure, and disposal costs, are not recognized.

3.12 Monetary gold in the form of bullion is not a financial claim, which means that it is not the liability of any other unit. Monetary gold does, however, provide economic benefits by serving as a store of value and can be used as a means of payment to settle financial claims and finance other types of transactions. As a result, monetary gold in the form of bullion is, by convention, treated as a financial asset. Monetary gold in the form of unallocated gold accounts is a financial claim and, therefore, a liability of another unit in the form of currency and deposits (see paragraph 3.26).⁹

⁵In addition, a financial claim may exist that entitles the creditor to demand payment from the debtor. However, whereas the payment by the debtor is unconditional if demanded, the demand itself is discretionary on the part of the creditor.

⁶A liability can be extinguished in other ways, such as cancellation by the creditor.

⁷Also see the discussion of contingent liabilities in Chapter 4, paragraphs 4.3–4.26.

⁸However, social security benefits due for payment and not yet paid are included in the balance sheet as accounts payable.

⁹As mentioned in Chapter 2, in principle, the gold bullion element of monetary gold should be excluded from the calculation of net debt. However, in practice, the total amount for monetary gold may have to be used in the net debt calculation because compilers

3.13 Nonfinancial assets are economic assets other than financial assets.¹⁰ Typically, the following main categories of nonfinancial assets exist: produced assets (such as fixed assets, inventories, and valuables),¹¹ and nonproduced assets (such as natural resources, contracts, leases, and licenses, and goodwill and marketing assets). Nonfinancial assets are stores of value and provide benefits either through their use in the production of goods and services, or in the form of property income.

2. Relationship between a balance sheet and debt

3.14 Paragraph 2.3 defines **debt** as all liabilities that require payment(s) of interest and/or principal by the debtor to the creditor at a date, or dates, in the future. In the macroeconomic statistical systems, all liabilities in the balance sheet are debt, except for equity and investment fund shares and financial derivatives and employee stock options.¹² Contingent liabilities are not debt of the guarantor unless and until a certain set of conditions are fulfilled. Debt liabilities consist of **debt instruments** which are discussed, in turn, below.

3.15 Table 3.1 shows the structure of a balance sheet in the GFS system.¹³ The debt instruments, and their counterparts under financial assets, are underlined and in bold font.

3.16 Because a given financial instrument gives rise to a financial asset and a liability, the same descriptions of instruments can be used for both. For simplicity, the descriptions in this chapter will refer only to “debt instruments,” unless there is a specific need to refer to financial assets or liabilities.

of public sector debt statistics may not be able to exclude the gold bullion element.

¹⁰By implication, nonfinancial assets do not represent claims on other units and, thus, do not have a corresponding liability. For example, commodities may be traded on organized markets similar to those of traded financial assets, but do not have a corresponding liability.

¹¹Examples of fixed assets are buildings, machinery and equipment, weapons systems, cultivated biological resources, computer software, and databases. Examples of inventories are materials and supplies, works in progress, and strategic stocks such as grain and rice. Examples of valuables are precious metals and stones, antiques, and other art objects that are held primarily as stores of value.

¹²Monetary gold in the form of bullion (a reserve asset) is the only financial asset with no corresponding liability. Other monetary gold as a liability is in the form of currency and deposits and, thus, debt.

¹³The classifications of financial assets and liabilities by financial instrument follow the 2008 SNA.

C. Classification of Debt Instruments

3.17 Based on the definition of debt, the following are debt instruments:

- Special drawing rights (SDRs);
- Currency and deposits;
- Debt securities;
- Loans;
- Insurance, pension, and standardized guarantee schemes; and
- Other accounts payable/receivable.

3.18 The classification of debt instruments, like the classifications of all financial assets and liabilities, is based primarily on the degree of liquidity and the legal characteristics of the instruments that describe the underlying creditor-debtor relationships. The liquidity of a financial instrument embraces characteristics such as negotiability, transferability, marketability, and convertibility.

3.19 In addition to classifying debt instruments by the characteristics of the financial instrument, they are also classified according to the residence of the other party to the instrument (the debtors for financial assets and the creditors for liabilities). Residence is defined in paragraphs 2.94–2.102.

3.20 The classification of Islamic financial instruments is discussed in the *Monetary and Financial Statistics Manual, 2000*, Appendix 2, Islamic Banking, and *Handbook on Securities Statistics—Debt Securities Issues*, Annex 2, Islamic Debt Securities.

I. Special drawing rights (SDRs)

3.21 *Special drawing rights (SDRs) are international reserve assets created by the International Monetary Fund (IMF) and allocated to its members to supplement reserve assets.* The Special Drawing Rights Department of the IMF allocates SDRs among member countries of the IMF (collectively known as the participants). The allocation of SDRs is a liability of the member country and interest accrues on this liability.

3.22 SDR holdings represent each holder’s unconditional right to obtain foreign exchange or other reserve assets from other IMF members. These financial assets, on which interest accrues, represent claims on the participants collectively and not

Table 3.1. A Government Finance Statistics Balance Sheet

	Opening Balance Sheet	Closing Balance Sheet
Nonfinancial assets	789	845
Financial assets	396	392
<u>Monetary gold and SDRs</u>	80	81
<u>Currency and deposits</u>	150	128
<u>Debt securities</u>	0	6
<u>Loans</u>	115	118
Equity and investment fund shares	12	13
<u>Insurance, pension, and standardized guarantee schemes</u>	20	21
Financial derivatives and employee stock options	0	0
<u>Other accounts receivable</u>	19	25
Liabilities	687	780
<u>SDRs</u>	0	0
<u>Currency and deposits</u>	102	139
<u>Debt securities</u>	212	253
<u>Loans</u>	328	333
Equity and investment fund shares	4	4
<u>Insurance, pension, and standardized guarantee schemes</u>	19	19
Financial derivatives and employee stock options	0	0
<u>Other accounts receivable</u>	22	32
<i>Net worth (total assets minus total liabilities)</i>	498	457
Some memorandum items:		
<i>Net financial worth (total financial assets minus total liabilities)</i>	-291	-388
<i>Gross debt (debt liabilities)</i>	683	776
<i>Net debt</i>	299	397

Items underlined and in bold are debt instruments and corresponding assets in debt instruments.

Notes:

- In this example, total liabilities are 780 in the closing balance sheet. (Gross) debt is 776 in the closing balance sheet, and is equal to total liabilities, excluding equity and investment fund shares and financial derivatives and employee stock options [780 – 4 – 0].
- Financial net worth is –388 in the closing balance sheet. Net debt is 397 in the closing balance sheet, and is equal to gross debt of 776 minus the corresponding financial assets of 379 (392 – 13 – 0).
- The numbers used in this example are taken from the 2008 SNA numerical example for the general government sector.

on the IMF. A participant may sell some or all of its SDR holdings to another participant and receive other reserve assets, particularly foreign exchange, in return. Participants may also use SDRs to meet liabilities.

3.23 The creation of SDRs (referred to as allocations of SDRs) and the extinction of SDRs (cancellations of SDRs) are treated as transactions. These transactions, and resulting stock positions, are recorded at the gross amount of the allocation. SDRs are transferable among participants and other official holders. Other methodological issues relating to SDRs—such as in which public sector unit's financial accounts to record the SDR holdings and allocations—are discussed in Chapter 4.

3.24 In addition to SDRs as a type of financial instrument, SDRs may also be used as a unit of account in which other debt instruments can be expressed.

2. Currency and deposits

3.25 *Currency consists of notes and coins that are of fixed nominal values and are issued or authorized by the central bank or government.* All sectors may hold currency as assets, but normally only central banks and government may issue currency. In some countries, commercial banks are able to issue currency under the authorization of the central bank or government. Currency constitutes a liability of the issuing units. Unissued currency held by a public sector unit is not treated as a financial asset of the public sector or

a liability of the central bank. Gold and commemorative coins that are not in circulation as legal tender, or as monetary gold, are classified as nonfinancial assets rather than currency.

3.26 *Deposits are all claims, represented by evidence of deposit, on the deposit-taking corporations (including the central bank) and, in some cases, general government and other institutional units.* A deposit is usually a standard contract, open to the public at large, that allows the placement of a variable amount of money. Public sector units may hold a variety of deposits as assets, including deposits in foreign currencies. It is also possible for a government unit to incur liabilities in the form of deposits. For example, a court or tax authority may hold a security deposit pending resolution of a dispute. Public financial corporations (for example the central bank) typically incur liabilities in the form of deposits, including to government units. It may be useful to further classify deposits according to whether they are denominated in the domestic currency or a foreign currency. Unallocated accounts for precious metals are also deposits, except for unallocated gold accounts held by monetary authorities for reserves purposes, for which the asset holding is included in monetary gold, with the counterpart liability being recorded as a deposit (see also paragraph 3.12).¹⁴ Deposits may be transferable or nontransferable.

3.27 *Transferable deposits comprise all deposits that are (i) exchangeable (without penalty or restriction) on demand at par, and (ii) directly usable for making third-party payments by check, draft, giro order, direct debit/credit, or other direct payment facility. Nontransferable deposits comprise all other financial claims, other than transferable deposits, represented by evidence of deposit.*¹⁵

3. Debt securities

3.28 *Debt securities are negotiable financial instruments serving as evidence of a debt.* The security normally specifies a schedule for interest payments

¹⁴See *BPM6* paragraphs 5.74–5.77, for a detailed discussion of monetary gold and gold accounts.

¹⁵Examples of other deposits are sight deposits that permit immediate cash withdrawals but not direct third-party transfers, savings and fixed-term deposits, overnight and very short-term repurchase agreements that are included in the national measures of broad money, foreign currency deposits that are blocked because of the rationing of foreign exchange as a matter of national policy, and the reserve position in the IMF.

and principal repayments. Examples of debt securities are:

- Bills;
- Banker's acceptances;
- Commercial paper;
- Negotiable certificates of deposit;
- Bonds and debentures, including bonds that are convertible into shares;
- Loans that have become negotiable from one holder to another;
- Nonparticipating preferred stocks or shares;
- Asset-backed securities and collateralized debt obligations; and
- Similar instruments normally traded in the financial markets.

3.29 *Bills are defined as securities (usually short term) that give holders the unconditional rights to receive stated fixed sums on a specified date.* Bills are issued and usually traded in organized markets at discounts to face value that depend on the rate of interest and the time to maturity. Examples of bills are Treasury bills, negotiable certificates of deposit, bankers' acceptances, promissory notes, and commercial paper.

3.30 *A banker's acceptance is created when a financial corporation endorses, in return for a fee, a draft or bill of exchange and the unconditional promise to pay a specific amount at a specified date.* Much international trade is financed this way. Bankers' acceptances are classified under the category of debt securities. The banker's acceptance represents an unconditional claim on the part of the holder and an unconditional liability on the part of the accepting financial corporation; the financial corporation's counterpart asset is a claim on its customer. Bankers' acceptances are treated as financial assets from the time of acceptance, even though funds may not be exchanged until a later stage.

3.31 *Bonds and debentures are securities that give the holders the unconditional right to fixed payments or contractually determined variable payments on a specified date or dates.* The earning of interest is not dependent on earnings of the debtors.

3.32 *Zero-coupon bonds are long-term securities that do not involve periodic payments during the life of the bond.* Similar to short-term securities, zero-cou-

pon bonds are sold at a discount and a single payment, that includes accrued interest, is made at maturity. *Deep-discount bonds are long-term securities that require periodic coupon payments during the life of the instrument, but the amount is substantially below the market rate of interest at issuance.*

3.33 Instruments with embedded derivatives are not classified as financial derivatives. If a primary instrument, such as a security or loan, contains an embedded derivative, the instrument is valued and classified according to its primary characteristics—even though the value of that security or loan may well differ from the values of comparable securities and loans because of the embedded derivative. Examples are corporate bonds that are convertible into shares of the same corporation at the option of the bondholder. If the conversion option is traded separately, then the option is treated as a separate instrument, classified as a financial derivative, and it is not debt.

3.34 Loans (see paragraph 3.39) that have become negotiable from one holder to another are to be reclassified from loans to debt securities under certain circumstances. For such reclassification, there needs to be evidence of secondary market trading, including the existence of market makers, and frequent quotations of the instrument, such as provided by bid-offer spreads.¹⁶

3.35 *Nonparticipating preferred stocks or shares are those that pay a fixed income but do not provide for participation in the distribution of the residual value of an incorporated enterprise on dissolution.* These shares are classified as debt securities. Bonds that are convertible into equity should also be classified in this category prior to the time that they are converted.

3.36 *Asset-backed securities and collateralized debt obligations are arrangements under which payments of interest and principal are backed by payments on specified assets or income streams.* This process is also described as “securitization” (for more details, see Chapter 4). Asset-backed securities are backed by various types of financial assets, for example, mortgages and credit card loans, or government’s future revenue streams. Some future revenues are not recognized as an economic asset in macroeconomic statistics.

¹⁶An example is a syndicated loan, which is provided by a group of lenders and is structured, arranged, and administered by one or several commercial or investment banks. If parts of a syndicated loan become widely traded, the loan may meet the requirements to be reclassified as a security.

3.37 *Stripped securities are securities that have been transformed from a principal amount with coupon payments into a series of zero-coupon bonds, with a range of maturities matching the coupon payment date(s) and the redemption date of the principal amount(s).* The function of stripping is that investor preferences for particular cash flows can be met in ways different from the mix of cash flows of the original security. There are two cases of stripped securities:

- When a third party acquires the original securities and uses them to back the issue of the stripped securities. Then new funds have been raised and there is a new financial instrument.
- When no new funds are raised and the payments on the original securities are stripped and marketed separately by the issuer or through agents (such as strip dealers) acting with the issuer’s consent. In this case, there is no new instrument.

3.38 *Index-linked securities are instruments for which either the coupon payments (interest) or the principal or both are linked to another item, such as a price index or the price of a commodity.* These securities are classified as variable-rate instruments. Issues in the measurement of interest on index-linked securities are discussed in the annex to Chapter 2.

4. Loans

3.39 *A loan is a financial instrument that is created when a creditor lends funds directly to a debtor and receives a nonnegotiable document as evidence of the asset.*¹⁷ This category includes overdrafts, mortgage loans, loans to finance trade credit and advances, repurchase agreements, financial assets and liabilities created by financial leases, and claims on or liabilities to the IMF in the form of loans. Trade credit and advances and similar accounts payable/receivable are not loans (see paragraphs 3.64–3.65). Loans that have become marketable in secondary markets should be reclassified under debt securities (see paragraph 3.34). However, if only traded occasionally, the loan is not reclassified under debt securities.

3.40 A financial lease involves imputing a loan.¹⁸ When goods are acquired under a financial lease, the lessee is deemed to be the owner, even though legally

¹⁷A loan is distinguished from a deposit on the basis of the representation in the documents that evidence them.

¹⁸A financial lease is a contract under which the lessor as legal owner of an asset conveys substantially all risks and rewards of ownership of the asset to the lessee.

the leased good remains the property of the lessor. This is because the risks and rewards of ownership have been, de facto, transferred to the lessee. This change in ownership is deemed to have been financed by an imputed loan, which is an asset of the lessor and a liability of the lessee.

3.41 *A securities repurchase agreement (repo) is an arrangement involving the sale of securities for cash, at a specified price, with a commitment to repurchase the same or similar securities at a fixed price either on a specified future date (often one or a few days hence) or with an open maturity.*¹⁹ The economic nature of the transaction is that of a collateralized loan (or a deposit²⁰) because the risks and rewards of ownership of the securities remain with the original owner (security provider). Thus, the funds advanced by the security taker (cash provider) to the security provider (cash taker) are treated as a loan and the underlying securities remain on the balance sheet of the security provider, despite the legal change in ownership.

3.42 *Securities lending is an arrangement whereby a security holder transfers securities to another party (security taker), subject to the stipulation that the same or similar securities be returned on a specified date or on demand.* As with a securities repurchase agreement, the risks and rewards of ownership remain with the original owner. If the security taker provides cash as collateral, then the arrangement is a repo (see paragraph 3.41). If the security taker provides noncash collateral, then no transaction is recorded. In either case, the securities involved remain on the balance sheet of the original owner.

3.43 *A gold swap involves an exchange of gold for foreign exchange deposits with an agreement that the transaction be reversed at an agreed future date at an agreed gold price.* The gold taker (cash provider) usually will not record the gold on its balance sheet, while the gold provider (cash taker) usually will not remove the gold from its balance sheet. In this manner, the transaction is analogous to a repurchase agreement and should be recorded as a collateralized loan or deposit. Gold swaps are similar to securities repurchase agreements except that the collateral is gold. Gold loans occur in the same form as securities lending and should be treated in the same way.

¹⁹An open maturity exists when both parties agree daily to renew or terminate the agreement.

²⁰Repurchase agreements that are included in the national definition of broad money should be classified as nontransferable deposits. All other securities repurchase agreements should be classified under loans.

3.44 *An off-market swap is a swap²¹ which has a nonzero value at inception as a result of having reference rates priced different from current market values (i.e., “off-the-market”).* Such a swap results in a lump-sum being paid, usually at inception, by one party to the other. The economic nature of an off-market swap is equivalent to a combination of borrowing (i.e., the lump sum), in the form of a loan, and an on-market swap (financial derivative). The loan component of an off-market swap is debt and, if a public sector unit receives the lump-sum payment, this loan will be part of public sector debt. For more details, see Chapter 4, paragraphs 4.127–4.131.

5. Insurance, pension, and standardized guarantee schemes

3.45 Insurance, pension, and standardized guarantee schemes comprise:

- Nonlife insurance technical reserves;
- Life insurance and annuities entitlements;
- Pension entitlements;
- Claims of pension funds on pension manager; and
- Provisions for calls under standardized guarantee schemes.

3.46 These reserves, entitlements, and provisions represent liabilities of a public sector unit as the insurer, pension fund, or issuer of standardized guarantees, and a corresponding asset of the policyholder or beneficiaries. It is usually public financial corporations that engage in insurance schemes. General government units may incur liabilities for these reserves, entitlements, and provisions and operators of nonlife insurance schemes, nonautonomous or unfunded pension schemes, and standardized guarantee schemes.²²

3.47 The following paragraphs briefly define the types of reserves, entitlements, and provisions applicable to insurance, pension, and standardized guarantee schemes. These issues are discussed in detail in *2008 SNA* Chapter 17 and their valuation is discussed in Chapter 2, paragraphs 2.135–2.138, of this *Guide*.

²¹A swap contract involves the counterparties exchanging, in accordance with prearranged terms, cash flows based on the reference prices of the underlying items.

²²It is unlikely that a general government unit would incur liabilities with respect to life insurance and annuities, unless it provides such schemes to its employees.

a. Nonlife insurance technical reserves

3.48 *Nonlife insurance technical reserves consist of (i) prepayments of net nonlife insurance premiums and (ii) reserves to meet outstanding nonlife insurance claims.* In other words, nonlife insurance technical reserves consist of premiums paid but not yet earned (called unearned premiums) and claims incurred but not yet settled.²³

3.49 Premiums are usually paid at the beginning of the period covered by the policy. On an accrual basis, the premiums are earned through the policy period, so that the initial payment involves a prepayment or advance. It also includes reserves for unexpired risks.

3.50 Reserves against outstanding insurance claims are amounts identified by insurance corporations to cover what they expect to pay out arising from events that have occurred but for which the claims are not yet settled. Other reserves, such as equalization reserves, may be identified by insurers. However, these are recognized as liabilities (and corresponding assets) only when there is an event that gives rise to a liability. Otherwise, equalization reserves are internal accounting entries by the insurer that represent saving to cover irregularly occurring catastrophes, and thus do not represent any existing corresponding claims for policyholders.

b. Life insurance and annuities entitlements

3.51 *Life insurance and annuities entitlements are financial claims policyholders have against an enterprise offering life insurance or providing annuities.*

3.52 This category consists of reserves of life insurance companies and annuity providers for prepaid premiums and accrued liabilities to life insurance policyholders and beneficiaries of annuities. Life insurance and annuity entitlements are used to provide benefits to policyholders upon the expiry of the policy, or to compensate beneficiaries upon the death of policyholders, and thus are kept separate from shareholders' funds. These entitlements are regarded as liabilities of the insurance companies and assets of the policyholders and beneficiaries. Annuities entitlements are the actuarial calculation of the present value of the obligations to pay future income until the death of the beneficiaries.

²³This includes cases where the amount is in dispute or the event leading to the claim has occurred but has not yet been reported (called claims outstanding).

c. Pension entitlements

3.53 *Pension entitlements are financial claims that existing and future pensioners hold against either their employer, or a fund designated by the employer, to pay pensions earned as part of a compensation agreement between the employer and employee.* The nature of these claims, and the corresponding liabilities of the units operating the pension funds, depends on the type of benefits promised.

3.54 The two main types of pension schemes are **defined-benefit schemes** and **defined-contribution schemes**.²⁴ In a defined-benefit scheme, the level of pension benefits promised by the employer to participating employees and other family members is guaranteed and usually is determined by a formula based on participants' length of service and salary. In a defined-contribution scheme, the level of contributions to the fund by the employer is guaranteed, but the benefits that will be paid depend on the assets of the fund.

3.55 A pension fund for public sector employees can be managed on behalf of the public sector unit by a public or private insurance corporation, or it can be organized and managed by the public sector unit as an autonomous or nonautonomous pension fund. A pension scheme operated by an insurance corporation or as an autonomous pension fund can have a net worth, positive or negative, if the assets of the fund exceed or fall short of the fund's liability for the retirement benefits. As with other public corporations, this net worth is owned by the employer or employers that established the fund. A nonautonomous pension fund is not a separate unit and the assets of the fund belong to the employer. The employees, however, have a claim against the employer who operates the nonautonomous fund, and the employer has a liability equal to the present value of the promised benefits.

3.56 In addition to liabilities of pension funds, liabilities of unfunded pension schemes are included in this category. By its nature, an unfunded scheme must be organized and managed by the employer, which may be a general government unit or a public corporation.

3.57 With respect to social security schemes,²⁵ no liability is recognized in the macroeconomic statistical systems for government promises to pay retirement pensions and other benefits in the future, regardless

²⁴Defined-contribution schemes are also referred to as "money-purchase schemes."

²⁵Social security schemes are defined in Chapter 2, paragraphs 2.44–2.45.

of the level of assets in a social security fund or other segregated accounts.²⁶ Liabilities for the payment of benefits that were due to be paid but have not yet been paid are classified as other accounts payable. If a social security fund also acts as a pension scheme (as is sometimes the case for benefits for present and former government employees), those pension obligations are included under pension entitlements, but not the pension fund's social security obligations.

3.58 As well as pensions, some schemes may have other related liabilities, such as for health benefits, which are included under entitlements to nonpension benefits. In addition to its pension entitlement liabilities to its beneficiaries, a pension fund may sometimes have a claim on the employer, other sponsor, or some other party such as an administrator of the scheme. On the other hand, the sponsor or some other party may have a claim on a surplus of the fund. Such claims are classified as claims of pension funds on sponsors under insurance, pension, and standardized guarantee schemes.

3.59 There are assumptions and different methods in the measurement of pension fund entitlements, so the nature of coverage and estimation should be stated in metadata accompanying the debt statistics.

d. Claims of pension funds on pension manager

3.60 An employer may contract with a third party to administer the pension funds for their employees. If the employer continues to determine the terms of the pension schemes and retains the responsibility for any deficit in funding as well as the right to retain any excess funding, the employer is described as the pension manager and the unit working under the direction of the pension manager is described as the pension administrator. If the agreement between the employer and the third party is such that the employer passes the risks and responsibilities for any deficit in funding to the third party in return for the right of the third party to retain any excess, the third party becomes the pension manager as well as the administrator.

3.61 When the pension manager is a unit different from the administrator, with the consequences that

²⁶The *GFSM* includes obligations for social security benefits as a memorandum item in the balance sheet. The present value of the social security benefits that have already been earned according to the existing laws and regulations but are payable in the future should be calculated in a manner similar to the liabilities of an employer pension scheme.

responsibility for any deficit, or claims on any excess, rest with the pension manager, the claim of the pension fund on the pension manager is shown under this heading. (If the pension fund makes more investment income from the pension entitlements it holds than is necessary to cover the increase in entitlements and the difference is payable to the pension manager of the scheme, then the pension manager has a claim on the pension fund.)

e. Provisions for calls under standardized guarantee schemes

3.62 *Standardized guarantees are those kinds of guarantees that are issued in large numbers, usually for fairly small amounts, along identical lines.*²⁷ There are three parties involved in these arrangements: the borrower (debtor), the lender (creditor), and the guarantor. Either the borrower or lender may contract with the guarantor to repay the lender if the borrower defaults. Examples are export credit guarantees, deposit guarantees, and student loan guarantees. Although it is not possible to establish the probability of any one loan defaulting, it is standard practice to estimate the default rate²⁸ of a batch of similar loans. If the guarantor is working along purely commercial lines, the expectation would be for all fees to be paid, plus the property income earned on the fees and any reserves, to cover the defaults on outstanding contracts along with the costs and leave a profit. This is exactly the same paradigm as operates for nonlife insurance and a similar treatment is adopted for these "standardized guarantees." This involves including transactions and balance sheet items parallel to those for nonlife insurance.

3.63 Standardized guarantees may be provided by a financial institution including, but not confined to, insurance corporations. They may also be provided by government units. It is possible (but unlikely) that nonfinancial corporations provide these kinds of guarantees. When a unit offers standardized loan guarantees, it accepts fees and incurs liabilities to meet the call on the guarantee.

²⁷In contrast, one-off guarantees are individual, and guarantors cannot reliably estimate the risk of calls. As a result, in most cases, one-off guarantees are not considered debt of the guarantor (unless and until such guarantees are called). See Chapter 4, paragraphs 4.15–4.16.

²⁸This default rate establishes the debt liability arising from standardized guarantees.

6. Other accounts payable/receivable

3.64 *Other accounts payable/receivable consist of trade credits and advances and miscellaneous other items due to be paid or received.* Trade credit and advances (supplier's credit) include (1) trade credit extended directly to purchasers of goods and services and (2) advances for work that is in progress or to be undertaken, such as progress payments made during construction in advance for work being done, or for prepayments of goods and services. Such credit arises both from normal delays in receiving payment and from deliberate extensions of vendor credit to finance sales. Trade credit extended by the seller of goods and services does not include loans, debt securities, or other liabilities that are provided by third parties to finance trade. If a government unit issues a promissory note or other security to consolidate the payment due on several trade credits, then the note or security is classified as a debt security.

3.65 Miscellaneous other accounts payable/receivable include accrued but unpaid taxes, dividends, purchases and sales of securities, rent, wages and salaries, social contributions, social benefits, and similar items. It also includes payments that have not yet accrued, such as prepayments of taxes. In principle, accrued but unpaid interest should be added to the principal of the underlying asset rather than included in this category. Taxes receivable and/or wages payable should be separately indicated if the amounts are substantial.

3.66 By definition, accounts payable/receivable are accrual concepts and do not exist in an accounting system that uses a pure cash basis of recording.

D. Classification of the Counterparty by Institutional Sector

3.67 The preceding section discussed the classifications of debt instruments based on the characteristics of the instrument underlying the claim. For a fuller understanding of general government or public sector debt, the counterparties to these financial relationships (i.e., the holders) are also relevant.²⁹ An analysis of the economic sectors providing the financing (i.e., the sources of funding) for general government or public sector operations complements an analysis of the type

²⁹Two parties are associated with all debt instruments. As a result, it is possible to cross-classify the issuers of the debt instruments with the counterparty creditor. This should be compiled separately for financial assets and liabilities.

of debt instruments used. Debtor-creditor relationships between subsectors are key for proper consolidation of public sector debt statistics. A classification of debt according to whether the counterparty is a public or private nonfinancial or financial corporation, respectively, will be necessary to compile accurate consolidated public sector debt statistics.

3.68 For debt instruments that are claims of resident institutional units, the second party to the instruments can be classified to the following institutional sectors:

- General government;
- Central bank;
- Deposit-taking corporations except the central bank;
 - Public deposit-taking corporations except the central bank
 - Private deposit-taking corporations except the central bank
- Other financial corporations³⁰;
 - Other public financial corporations
 - Other private financial corporations
- Nonfinancial corporations;
 - Public nonfinancial corporations
 - Private nonfinancial corporations
- Households and nonprofit institutions serving households.

3.69 For debt instruments that are claims by non-residents, the second party to the instruments can be:

- General government;
- Central banks;
- International organizations;
- Financial corporations not elsewhere classified; or
- Other nonresidents.

3.70 The definitions of institutional sectors are provided in Chapter 2 of this *Guide*, and are discussed more extensively in Chapter 2 of the *GFSM* and Chapter 4 of the *2008 SNA*. Issues in identification of counterparties of traded debt securities are discussed in Chapter 7 of this *Guide*.

³⁰In other words, financial corporations other than deposit-taking corporations.

3.71 Securities repurchase agreements (repos) and securities lending are defined in paragraphs 3.41–3.42. In many economies, high proportions of government-issued securities are subject to such arrangements. In both cases, the legal title is conveyed to another party under these arrangements, but the economic ownership

of the security does not change. In this situation it is important to know how the data source records the ownership—by economic owner or the legal owner—so as to help ensure that the counterparty is correctly identified.

Selected Issues in Public Sector Debt

This chapter provides guidance on selected issues that may arise in the recording of flows and stock positions related to public sector debt. These issues include contingent liabilities, debt reorganization, debt write-offs, and other debt-related operations.

A. Introduction

4.1 In the recording of public sector debt, most methodological issues arise with the flows (“transactions” and “other economic flows”) associated with the debt liabilities rather than with the stock positions. However, because stock positions are affected by flows, this chapter focuses on both.

4.2 Definitions and the statistical treatment of contingent liabilities and several types of debt reorganization are discussed first. The remainder of this chapter provides guidance on a range of other methodological issues relating to debt. Where possible, numerical examples are included to illustrate the statistical treatment of the event. These examples follow the presentation of the integrated *GFSM* analytic framework.

B. Contingent Liabilities

1. Introduction

4.3 Contingent liabilities create fiscal risks¹ and may arise from deliberate public policy or from unforeseen events, such as a financial crisis. The *GFSM* recommends that some contingent liabilities of a public sector unit are recorded in the form of memorandum items to the balance sheet.

¹At the most general level, fiscal risks may be defined as any potential differences between actual and expected fiscal outcomes (for example, fiscal balances and public sector debt). Contingent liabilities are a specific source of fiscal risk. See Chapter 9 for a discussion of fiscal risks and vulnerability.

4.4 Given the need for public sector debt statistics compilers and analysts to monitor contingent liabilities, this section lays out a typology of contingent liabilities. The typology is mainly based on the 2008 *SNA*, *BPM6*, the *External Debt Guide*, the *ESA95 Manual on General Government Deficit and Debt*, and related country experience. The typology supplements traditional approaches to public sector analysis. Figure 4.1 provides an overview of liabilities and contingent liabilities. The remainder of this section defines contingent liabilities and discusses the different types of contingent liabilities, how they may be measured, and the statistical treatment of one-off guarantees.

2. Definition

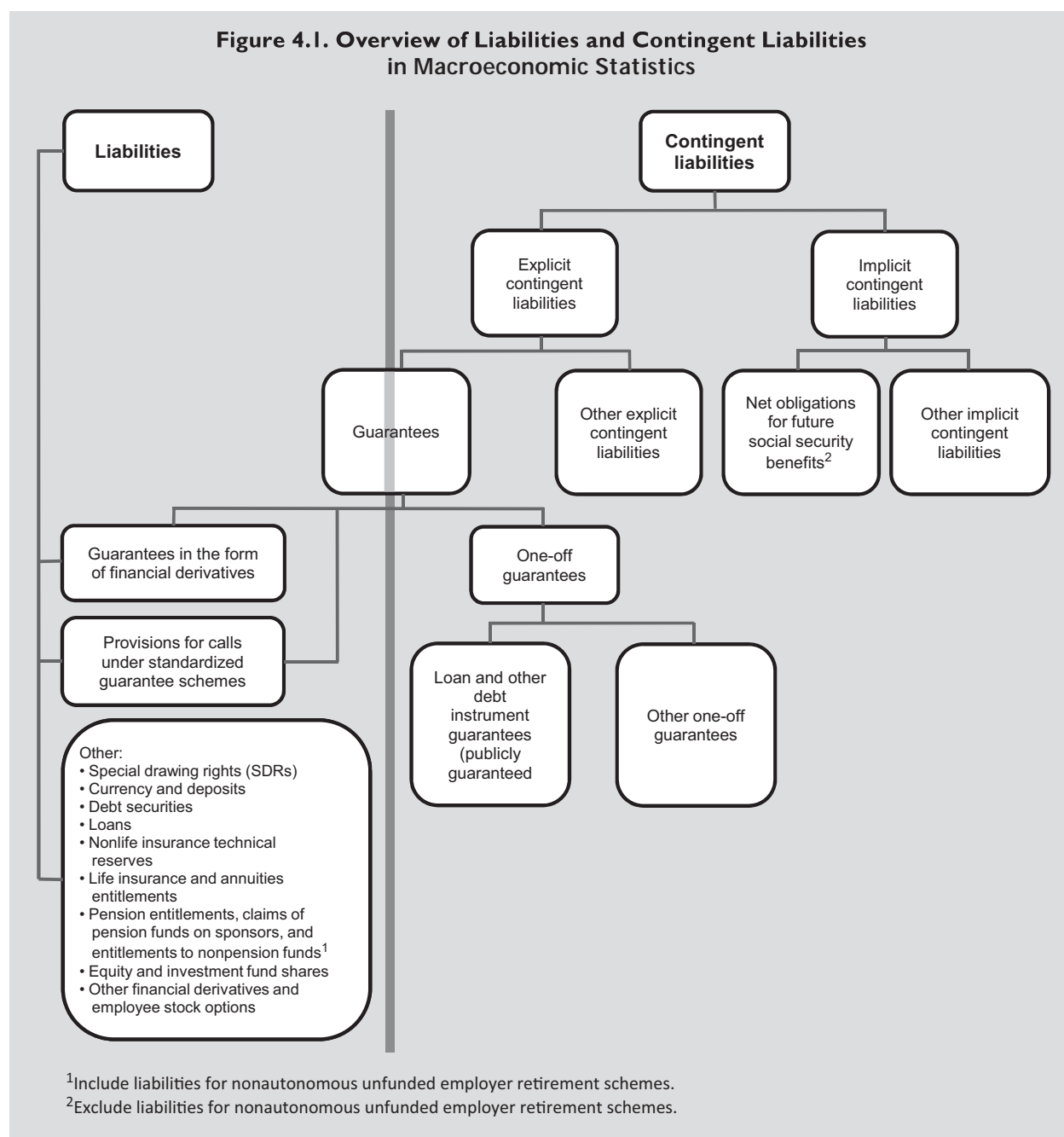
4.5 *Contingent liabilities are obligations that do not arise unless a particular, discrete event(s) occurs in the future.* A key difference between contingent liabilities and liabilities² (and public sector debt) is that one or more conditions must be fulfilled before a financial transaction is recorded. With contingent liabilities, there is typically uncertainty over whether a payment will be required or not, and its potential size.³

4.6 In general, contingent liabilities are not recognized as liabilities in macroeconomic statistics unless and until certain specified conditions prevail. However, for standardized guarantees (see paragraphs 4.12–4.13), the proportion of guarantees likely to be called for the pool of similar guarantees is treated as a liability, even though each individual arrangement

²Liabilities refer to those obligations recognized on a macroeconomic statistics balance sheet in the calculation of an institutional unit’s net worth. Contingent liabilities are not included in the calculation of net worth.

³Uncertainty about the valuation of liabilities as a result of market prices does not make these liabilities contingent liabilities. These instruments remain liabilities to be recorded on the balance sheet.

Figure 4.I. Overview of Liabilities and Contingent Liabilities in Macroeconomic Statistics



involves a contingent liability.⁴ In some cases, specific guidance is needed to determine whether an instrument is a liability (and financial asset for the counterparty) or a contingent liability. Banker's acceptances are treated as financial assets (and liabilities) even

⁴Standardized guarantees involve the same paradigm operating for nonlife insurance and a similar treatment is adopted.

though no funds may have been exchanged.⁵ There are other circumstances where future payments are not treated as liabilities (or financial assets), even

⁵A banker's acceptance involves financial institutions accepting drafts or bills of exchange and the unconditional promise to pay a specific amount at a specified date. The banker's acceptance represents an unconditional claim on the part of the holder and an unconditional liability on the part of the accepting bank; the bank's counterpart asset is a claim on its customer.

though the size of the payment and the fact that it will be paid are known with a high degree of certainty. For example, an enterprise's future payments under a sales contract or future tax payments to government are not recorded as liabilities until an event occurs that creates a liability, such as the receipt of goods and services under a sales contract.

4.7 A distinction is made between **explicit** and **implicit** contingent liabilities. In all macroeconomic statistical systems, *explicit contingent liabilities are defined as legal or contractual financial arrangements that give rise to conditional requirements to make payments of economic value. The requirements become effective if one or more stipulated conditions arise. Implicit contingent liabilities do not arise from a legal or contractual source but are recognized after a condition or event is realized.* While the focus of this *Guide* (and other macroeconomic statistical systems) is largely on explicit contingent liabilities, the importance of implicit contingent liabilities is discussed in Chapter 9, under Fiscal Risks and Vulnerability.

3. Explicit contingent liabilities

4.8 Explicit contingent liabilities can take a variety of forms although guarantees are the most common. However, not all guarantees are contingent liabilities; some are liabilities. Different types of guarantees and their relation to contingent liabilities are discussed below.

4.9 Examples of contingencies in a form other than guarantees are:

- Potential legal claims, which are claims stemming from pending court cases;
- Indemnities, which are commitments to accept the risk of loss or damage another party might suffer; and
- Uncalled share capital, which is an obligation to provide additional capital, on demand, to an entity of which it is a shareholder (such as an international financial institution).

a. Types of guarantees

4.10 Three classes of guarantees are considered in the *2008 SNA*: guarantees that meet the definition of a financial derivative, standardized guarantees, and one-off guarantees.

i. Guarantees in the form of financial derivatives

4.11 The first class of guarantees are those provided by means of a financial derivative, such as a credit default swap. In macroeconomic statistics, asset and liability positions in these types of financial derivatives—as for other financial derivatives—are financial assets and liabilities but not debt (see paragraph 2.6). Liabilities (and financial assets) in the form of financial derivatives are thus excluded from the **debt** presentation Tables 5.1–5.10, and from Table 5.12 on explicit contingent liabilities and net obligations for future social security benefits. However, as recommended in paragraphs 5.50–5.52), presenting information on financial derivative positions along with debt statistics—as shown in Table 5.11—may be important because these contracts can add to a public sector unit's liabilities and lead to significant losses.

ii. Standardized guarantees

4.12 *Standardized guarantees are those kinds of guarantees that are issued in large numbers, usually for fairly small amounts, along identical lines.* There are many guarantees of similar characteristics and a pooling of risks, and guarantors are able to estimate the average loss (default rate) based on available statistics by using a probability-weighted concept.⁶ Examples of standardized guarantees are guarantees for export (trade) credit, exchange rates, various types of insurance (such as deposit, crop, or natural disaster insurance), agriculture loans, mortgage loans, student loans, and small and medium enterprise (SME) loans.

4.13 Although it is not possible to establish whether any one guarantee will be called, it is standard practice to estimate the **default rate** of a pool of similar guarantees. This default rate establishes a **debt liability**—not a contingent liability—for a public sector unit, which is referred to as “provision for calls under standardized guarantee schemes.” This liability is part of the debt instrument “insurance, pension, and standardized guarantee schemes.” The value recorded in the public sector unit's balance sheet is the expected level of claims under current guarantees minus any expected recoveries.⁷

⁶The treatment of standardized guarantees is similar to that of nonlife insurance. For more details, see Chapter 3 in this *Guide*, paragraphs 3.62–3.63, and *2008 SNA*, Chapter 17, Part 3.

⁷Transactions in financial assets and liabilities for provisions for calls under standardized guarantee schemes are similar to the reserves for nonlife insurance; they include unearned fees and calls not yet settled.

iii. One-off guarantees

4.14 *One-off guarantees comprise those types of guarantees where the debt instrument is so particular that it is not possible to calculate the degree of risk associated with the debt with any degree of accuracy.*

In contrast to standardized guarantees, one-off guarantees are individual, and guarantors are not able to make a reliable estimate of the risk of calls.

4.15 In most cases, a one-off guarantee is considered a contingent debt liability of the guarantor. Debt under one-off guarantees continues to be attributed to the debtor, not the guarantor, unless and until the guarantee is called.

4.16 In contrast, a one-off guarantee granted by government to a corporation in financial distress and with a very high likelihood to be called is treated as if the guarantee is called at inception.⁸ The activation of such a one-off guarantee is treated as debt assumption (see paragraphs 4.56–4.57) and this liability is part of the public sector unit's balance sheet (and debt).

4.17 One-off guarantees may be grouped into loan and other debt instrument guarantees and other one-off guarantees:

- **Loan and other debt instrument guarantees**—or “one-off guarantees” of payment—are commitments by one party to bear the risk of nonpayment by another party. Guarantors are only required to make a payment if the debtor defaults. *Loans and other debt instrument guarantees constitute publicly guaranteed debt, defined as debt liabilities of public and private sector units, the servicing of which is contractually guaranteed by public sector units* (see paragraphs 5.36–5.41, Chapter 5).
- The category **other one-off guarantees** includes credit guarantees (such as lines of credit and loan commitments), contingent “credit availability” guarantees, and contingent credit facilities. Lines of credit and loan commitments provide a guarantee that undrawn funds will be available in the future, but no financial liability/asset exists until such funds are actually provided. Undrawn lines of credit and undisbursed loan commitments are

contingent liabilities of the issuing institutions—generally, banks. Letters of credit are promises to make payment upon the presentation of pre-specified documents.

Underwritten note issuance facilities (NIFs) provide a guarantee that a borrower will be able to issue short-term notes and that the underwriting institution(s) will take up any unsold portion of the notes. Only when funds are advanced by the underwriting institution(s) will a liability/asset be created. The unutilized portion is a contingent liability. Other note guarantee facilities providing contingent credit or back-up purchase facilities are revolving underwriting facilities (RUFs), multiple options facilities (MOFs), and global note facilities (GNFs). Bank and nonbank financial institutions provide back-up purchase facilities. Again, the unutilized amounts of these facilities are contingent liabilities.

4.18 Loan and other debt instrument guarantees (publicly guaranteed debt) differ from the other types of one-off guarantees. This is because the guarantor guarantees the servicing of the **existing** debt of other public and private sector units. With the other one-off guarantees, no financial liability/asset exists until funds are actually provided or advanced.

4.19 Information on the stock positions of publicly guaranteed debt can be particularly relevant for public financial policy and analysis. This *Guide* recommends to show publicly guaranteed debt (one-off guarantees of loans and other debt instruments), at nominal value, as a memorandum item to the public sector debt statistics (see Table 5.1), and details are provided in a separate table (see Tables 5.8a and 5.8b).

4.20 Because one-off guarantees are explicit contingent liabilities, all one-off guarantees are included in Table 5.12—a register of significant contingent liabilities providing details on the different types of explicit contingent liabilities and on net obligations for future social security benefits (an implicit contingent liability—see paragraph 4.21 below).

4. Implicit contingent liabilities

4.21 As explained in paragraph 4.7, implicit contingent liabilities do not arise from a legal or contractual source but are recognized when a condition or event is realized. Examples of implicit contingent liabilities are the net obligations of future social security benefits, ensuring solvency of the banking sector, covering the obligations of subnational (state and local)

⁸Such treatment should be undertaken with caution, not least to avoid double-counting of the debt and inconsistencies with other macroeconomic statistics (which still record the claim to the original debtor). Eurostat uses the following practical guidance with regard to publicly guaranteed debt: If government, as a guarantor, makes a payment on an existing guaranteed debt in three consecutive years, and this situation is expected to continue, then the debt is considered to be assumed, normally in its entirety (or for the proportion government is expected to repay, if there is evidence of that).

governments, or the central bank, in the event of default, environmental liabilities, unguaranteed debt of public sector units, obligations to meet the guarantees of other public sector units if they cannot meet them, and spending for natural disaster relief.

4.22 This *Guide* recommends including net obligations for future social security benefits⁹ in a register of significant contingent liabilities, as shown in Table 5.12. Other implicit contingent liabilities that can be identified may also be included, if considered significant and/or analytically useful.

5. Measuring contingent liabilities

4.23 Standards for measuring contingent liabilities are still evolving because these liabilities are complex arrangements and no single measurement approach can fit all situations. Nonetheless, monitoring and measurement of contingent liabilities are encouraged, with a view to enhancing transparency. For example, a register of significant contingent liabilities of a public sector unit may be compiled as shown in Table 5.12.

4.24 There are several approaches to valuing contingent liabilities.¹⁰ As noted in paragraph 4.19, this *Guide* recommends to show guaranteed public sector debt (one-off guarantees of loans and other debt instruments) at nominal value. Credit guarantees (such as lines of credit and loan commitments), contingent “credit availability” guarantees, and contingent credit facilities are recorded at their nominal amounts. Limitations of this approach are that it offers no information on the likelihood of the contingency occurring and it may overstate the possible risk. For loan and other debt instrument guarantees, the maximum potential loss is likely to be less than their nominal value, because not all debts will default. Several alternative methods of valuing the expected loss may be applied, each with its own limitations and advantages. These methods range from relatively simple techniques requiring the use of historical data to complex options-pricing techniques (see Box 4.1). The actual approach adopted will depend on the availability of information on the type of contingency. For this reason, it is particularly important

⁹Liabilities for nonautonomous unfunded employer pension schemes are liabilities and part of public sector debt when the employer is a public sector unit.

¹⁰Some of these techniques are discussed in the *External Debt Guide 2003*, Chapter 9, and *Public-Private Partnerships, Government Guarantees, and Fiscal Risk*, International Monetary Fund, 2006, pp. 37–40.

to provide metadata on the method(s) used to value contingent liabilities.

6. Statistical treatment of one-off guarantees provided by public sector units

4.25 In most cases, the granting of a one-off guarantee is considered a contingency and is not recorded as a liability for the guarantor. The **activation** of a one-off guarantee in the form of loan and other debt instruments is an economic event following the granting of a one-off guarantee and is treated in the same way as a debt assumption (see paragraphs 4.56–4.57). The original debt is extinguished and a new debt is created between the guarantor (who becomes the new debtor) and the creditor. The guarantor is deemed to make a capital transfer to the original debtor, unless the guarantor acquires an effective financial claim on the original debtor, in which case it leads to the recognition of a financial asset (a liability of the original debtor).

4.26 The activation of a guarantee may require full and immediate repayment of debt. The accrual principle for time of recording requires that the total amount of debt assumed is recorded at the time the guarantee is activated and the debt assumed. Assumption under a one-off guarantee is recorded when the call on the guarantee is made or when it is well established that such a call will be made. A one-off guarantee granted by a government to a corporation in financial distress, and with a very high likelihood to be called, is treated as if the guarantee was called at inception (see paragraph 4.16). A particular case in point is a bailout by government, which is discussed in paragraphs 4.109–4.118. Repayments of principal by the guarantor (the new debtor) and interest accruals on the assumed debt are recorded as these flows occur.

C. Debt Reorganization

4.27 *Debt reorganization (also referred to as debt restructuring) is defined as an arrangement involving both the creditor and the debtor (and sometimes third parties) that alter the terms established for servicing an existing debt.* Governments are often involved in debt reorganization, as debtor, creditor, or guarantor.

4.28 Debt reorganization usually involves relief for the debtor from the original terms and conditions of debt obligations. This may be in response to liquidity constraints, where the debtor does not have the cash to meet debt-service payments due, or sustainability

Box 4.1. Some Alternative Measures of Valuing the Expected Loss from Loan and Other Debt Instrument Guarantees

If the expected loss can be calculated, an additional approach is to value this loss(es) in present-value terms—expected present value. In other words, since any payment will be in the future and not immediate, the expected future payment streams could be discounted using a market rate of interest faced by the guarantor; that is, the present value. As with all present-value calculations, the appropriate interest rate to use is crucial; a common practice with government contingent liabilities is to use a risk-free rate like the treasury rate. Under this present-value approach, when a guarantee is issued the present value of the expected cost of the guarantee could be recorded as an outlay or expense (in the operating account) in the current year and included in the position data, such as a balance sheet.

Exact valuation requires detailed market information, but such information is often unavailable. This is particularly true in situations of market failure or incomplete markets—a financial marketplace is said to be complete when a market exists with an equilibrium price for every asset in every possible state of the world. Other means are then required to value a contingency. One possibility is to use historical data on similar types of contingent operations. For example, if the market price of a loan is not observable, but historical data on a large number of loan guarantees and defaults associated with those guarantees are available, then the probability distribution of the default occurrences can be used to estimate the expected cost of a guarantee on the loan. This procedure is similar to that employed by the insurance industry to calculate insurance premiums. Rating information on like entities is often used to impute default value on loan guarantees as well.

Market value measures use market information to value a contingency. This methodology can be applied across a wide range of contingent liabilities, but it is particularly useful for valuing loan and other debt instrument guarantees, on which the following discussion focuses. This methodology assumes that comparable instruments with

and without guarantees are observable in the market and that the market has fully assessed the risk covered by the guarantee. Under this method, the value of a guarantee on a financial instrument is derived as the difference between the price of the instrument without a guarantee and the price inclusive of the guarantee. In the context of a loan guarantee, the nominal value of the guarantee would be the difference between the contractual interest rate (ip) on the unguaranteed loan and the contractual interest rate (ig) on the guaranteed loan times the nominal value of the loan (L): $(ip - ig)L$. The market value of the guarantee would use market not contractual rates.

Yet another approach to valuing contingent liabilities applies option-pricing techniques from finance theory. With this method, a guarantee can be viewed as an option: a loan guarantee is essentially a put option written on the underlying assets backing the loan. In a loan guarantee, the guarantor sells a put option to a lender. The lender, who is the purchaser of the put option, has the right to “put” (sell) the loan to the guarantor. For example, consider a guarantee on a loan with a nominal value of F and an underlying value of V . If $V - F < 0$, then the put option is exercised and the lender receives the exercise price of F . The value of the put option at exercise is $F - V$. When $V > F$, the option is not exercised. The value of the guarantee is equivalent to the value of the put option. If the value of the credit instrument on which a guarantee is issued is below the value at which it can be sold to the guarantor, then the guarantee will be called.

Although the option pricing approach is relatively sophisticated, it is being applied in the pricing of guarantees on infrastructure financing and interest and principal payment guarantees. But standard option pricing has its limitations as well. This is because the standard option-pricing model assumes an exogenous stochastic process for underlying asset prices. However, it can be argued that the very presence of a guarantee (especially a government guarantee) can affect asset prices.

issues, where the debtor is unlikely to be able to meet its debt obligations in the medium term.

4.29 A failure by a debtor to honor its debt obligations (for example, default) does not constitute debt reorganization because it does not involve an arrangement between the creditor and the debtor. Similarly, a creditor can reduce the value of its debt claims on the debtor in its own accounts through debt write-offs—unilateral actions that arise, for example, when the creditor regards a claim as unrecoverable, perhaps because of bankruptcy of the debtor and, as a result, no longer carries the claim on its balance sheet. Again, this is not considered debt reorganization.

4.30 The four main types of debt reorganization are:

- **Debt forgiveness**, which is a reduction in the amount of, or the extinguishing of, a debt obligation by the creditor via a contractual arrangement with the debtor.
- **Debt rescheduling or refinancing** (or debt exchange), which is a change in the terms and conditions of the amount owed, which may result in a reduction in debt burden in present value terms.
- **Debt conversion and debt prepayment (or debt buybacks for cash)**, where the creditor exchanges the debt claim for something of economic value,

other than another debt claim, on the same debtor. Examples of debt conversion are debt-for-equity swaps, debt-for-real-estate swaps, debt-for-development swaps, and debt-for-nature swaps.¹¹

- **Debt assumption and debt payments on behalf of others** when a third party is also involved.

4.31 A debt reorganization package may involve more than one of the types mentioned above; for example, most debt reorganization packages involving debt forgiveness also result in a rescheduling of the part of the debt that is not forgiven or cancelled.

4.32 The statistical treatment of the various types of debt reorganization is summarized in Table 4.1. If debt reorganization for a public sector unit or subsector is significant, consideration should be given to disseminate additional information, as outlined in the *External Debt Guide*, Table 8.1.

1. Debt forgiveness

a. Definition

4.33 *Debt forgiveness (or debt cancellation) is defined as the voluntary cancellation of all or part of a debt obligation within a contractual arrangement between a creditor and a debtor.*¹² With debt forgiveness, there is a mutual agreement between the parties involved and an intention to convey a benefit. With debt write-off, there is no such agreement or intention—it is a unilateral recognition by the creditor that the amount is unlikely to be collected (see paragraphs 4.75–4.78).¹³ Debt forgiven may include all or part of the principal outstanding, inclusive of any accrued interest arrears (interest that fell due for payment in the past) and any other interest costs that have accrued. Debt forgiveness does not arise from the cancellation of future interest payments that have not yet fallen due and have not yet accrued.

¹¹Some agreements described as debt swaps are equivalent to debt forgiveness from the creditor and the debtor viewpoint. At the same time, there is a commitment from the debtor country to undertake development, environment, and similar expenditure. These transactions should be considered under debt forgiveness, because no value is provided to the creditor.

¹²This includes forgiveness of some, or all, of the principal amount of a credit-linked note arising from an event affecting the entity on which the embedded credit derivative was written. It also includes forgiveness of principal that arises when a type of event contractually specified in the debt contract occurs, such as forgiveness in the event of a type of catastrophe.

¹³Debt forgiveness is unlikely to arise between commercial entities such as public corporations.

b. Statistical treatment of debt forgiveness

4.34 Debt forgiveness is always recorded as a capital grant or transfer¹⁴ to the debtor, which extinguishes the financial claim and the corresponding debt liability. A public sector unit may be involved in debt forgiveness as a creditor or a debtor.

4.35 Box 4.2 illustrates the statistical treatment of debt forgiveness from the creditor and debtor viewpoints, respectively. Debt forgiveness results in:

- no change in gross debt and an increase in net debt of the creditor equal to the value of the debt forgiven; and
- a decrease in gross and net debt of the debtor.

4.36 Market prices are the basis for valuing debt forgiveness, except for loans, where nominal value is used.

2. Debt rescheduling and refinancing

4.37 Debt rescheduling and refinancing involve a change in an existing debt contract and replacement by a new debt contract, generally with extended debt-service payments.¹⁵ Debt rescheduling involves rearrangements on the same type of instrument, with the same principal value and the same creditor as with the old debt. Debt refinancing entails a different debt instrument, generally at different value, and possibly with a different creditor.¹⁶ For example, a creditor may choose to apply the terms of a Paris Club agreement either through a debt rescheduling option (changing the terms and conditions of its existing claims on the

¹⁴In *GFSM*, a capital transfer between two government units is called a **capital grant receivable or payable**, and is recorded under Revenue: Grants, and Expense: Grants, respectively. A capital transfer between a government unit and a nongovernment unit (including a public corporation) is called a capital transfer, and is recorded under Revenue: Voluntary transfers other than grants, and Expense: Miscellaneous other expense, respectively.

¹⁵If the original terms of a debt (typically a loan or debt security, but also other debt instruments) are changed by renegotiation by the parties, this is treated as a repayment of the original debt and the creation of a new debt liability. In contrast, if the original terms of the contract provide that the maturity or interest rate terms, or both, change as a result of an event such as a default or decline in credit rating, then this involves a reclassification. (In practice, this distinction has an effect on net values in cases where the original and new terms have a different principal, different instrument classification, or different maturity classification; otherwise, the entries cancel out.)

¹⁶From the debtor perspective, debt refinancing may involve borrowing from a third party to repay a creditor. The definition of debt refinancing in the *Guide* is a narrower concept reflecting transactions between the debtor and same creditor only.

Table 4.1. A Summary of Statistical Treatment of Various Types of Debt Reorganization

		Revenue	Expense	Effect on operating balance and net worth	Effect on net lending (+) / net borrowing (-) and net financial worth	Financial assets (flows and stock positions)	Liabilities (flows and stock positions)
1. Debt forgiveness and debt cancellation (para.4.33–4.36, Box 4.2)	Debtor	Capital grant or capital transfer		Positive	Positive		Debt liabilities decreases
	Creditor		Capital grant or capital transfer	Negative	Negative	Financial claims decreases	
2. Debt rescheduling (para. 4.37–4.40, Box 4.3)	Debtor			No effect ¹	No effect ¹		Existing debt liability decreases; New debt liability increases
	Creditor					Existing financial claim decreases; New financial claim increases	
2. Debt refinancing (para.4.41–4.47, Box 4.4)	Debtor			Possible effect because of revaluation arising if difference between value of old and new instrument(s)	Possible effect because of revaluation arising if difference between value of old and new instrument(s)		Existing debt liability decreases; New debt liability increases
	Creditor					Existing financial claim decrease; New financial claim(s) increases	
3. Debt conversion (para.4.48–4.51, Box 4.5)	Debtor			Positive, if at a discount; otherwise no change	Positive, if at a discount; otherwise no change		Debt liability decreases; Nondebt liability increases
	Creditor			Negative, if at a discount; otherwise no change.	Negative, if at a discount; otherwise no change.	Financial claim corresponding to debt decreases; Nondebt financial claim increases	
3. Debt prepayment (para.4.53–4.55, Box 4.6)	Debtor					Currency and deposits decrease	Debt liability decreases
	Creditor			No effect ²	No effect ²	Financial claim corresponding to debt decreases; Currency and deposits increase	
4. Debt assumption with an effective financial claim on original debtor (para. 4.56–4.57, Box 4.7, example 1)	Debt assumer (new debtor)		Capital transfer/ grant if a difference between liability incurred and financial asset acquired	No effect, if no capital transfer/ grant component; otherwise negative	No effect, if no capital transfer/ grant component; otherwise negative	Loans increase	Debt liability increases
	Original debtor	Capital transfer/ grant if difference between original debt liability and debt liability to debt assumer		No effect, if no capital transfer/ grant component; otherwise positive	No effect, if no capital transfer/ grant component; otherwise positive		Original debt liability decreases; Liability to debt assumer increases
	Creditor			No effect	No effect	No change	

¹May also involve debt forgiveness and other adjustments, such as revaluations, that affect these balances.

²May involve debt forgiveness that affects these balances.

Continues on the next page

Table 4.1. A Summary of Statistical Treatment of Various Types of Debt Reorganization (*continued*)

		Revenue	Expense	Effect on operating balance and net worth	Effect on net lending (+) / net borrowing (-) and net financial worth	Financial assets (flows and stock positions)	Liabilities (flows and stock positions)
4. Debt assumption with no effective financial claim on original debtor (para. 4.56–4.57, Box 4.7, example 2)	Debt assumer (new debtor)		Capital transfer/grant	Negative	Negative		Debt liability increases
	Original debtor	Capital transfer/grant		Positive	Positive		Debt liability decreases
	Creditor			No effect	No effect	No change	
4. Debt assumption with no effective financial claim on original debtor, which is a public corporation and a going concern (para. 4.56–4.57, Box 4.7, example 3)	Debt assumer (new debtor)			No effect	No effect	Equity and investment fund shares increase	Debt liability increases
	Original debtor			No effect	No effect		Original debt liability decreases; Nondebt liability equity and investment fund shares increases
	Creditor			No effect	No effect	No change	
4. Debt payments on behalf of others with an effective financial claim (para. 4.58–4.61, Box 4.8)	Paying unit			No effect	No effect	Currency and deposits decrease; Loans increase	
	Original debtor			No effect	No effect		Original debt liability decreases; Liability to paying unit increases
4. Debt payments on behalf of others with no effective financial claim—depends on nature of paying unit and original debtor (para. 4.58–4.61, Box 4.8)	Paying unit		Capital grant expense or capital transfer expense	Negative	Negative	Currency and deposits decrease	
	Original debtor	Capital grant revenue or capital transfer revenue (other revenue)		Positive	Positive	Currency and deposits increase	

debtor) or through refinancing (making a new loan to the debtor that is used to repay the existing debt).

a. Debt rescheduling

i. Definition

4.38 *Debt rescheduling is a bilateral arrangement between the debtor and the creditor that constitutes a formal postponement of debt-service payments and the application of new and generally extended maturities.*

The new terms normally include one or more of the following elements: extending repayment periods, reductions in the contracted interest rate, adding or extending grace periods for the payment of interest and principal, fixing the exchange rate at favorable levels for foreign currency debt, and rescheduling the payment of arrears, if any. In the specific case of zero-coupon securities, a reduction in the principal amount to be paid at redemption to an amount that still exceeds the principal amount outstanding at the time the arrangement becomes effective.

Box 4.2. Statistical Treatment of Debt Forgiveness

The following example illustrates the statistical treatment of debt forgiveness of 100 for a public sector unit as a creditor and debtor, respectively.

	Public sector unit as creditor				Public sector unit as debtor			
	Opening balance sheet	Transactions	Other economic flows	Closing balance sheet	Opening balance sheet	Transactions	Other economic flows	Closing balance sheet
Revenue						100		
Capital transfer/grant						100		
Expense		100						
Capital transfer/grant		100						
<i>Net worth / Net operating balance</i>	100	-100		0	-100	100		0
Nonfinancial assets								
<i>Net financial worth / Net lending (+) / net borrowing (-)</i>	100	-100		0	-100	100		
Financial assets	100	-100		0				
Liabilities					100	-100		0
Gross debt	0	0		0	100	-100		0
Net debt	-100	100		0	100	-100		0

tive, could be classified as either an effective change in the contractual rate of interest or a reduction in principal with the contractual rate unchanged. Such a reduction in the principal payment to be made at maturity should be recorded as debt forgiveness, or debt rescheduling if the bilateral agreement explicitly acknowledges a change in the contractual rate of interest. Paris Club creditors provide debt relief to debtor countries in the form of rescheduling, which is debt relief by postponement or, in the case of concessional rescheduling, reduction in debt-service obligations during a defined period (flow treatment) or as of a set date (stock treatment).

ii. Statistical treatment of debt rescheduling

4.39 With debt rescheduling, the applicable existing debt is recorded as being repaid and a new debt instrument (or instruments) created with new terms and conditions. This treatment does not apply, however, to interest arrears that are rescheduled when the conditions in the existing debt contract remain unchanged. In such a case, the existing debt contract is not considered as rescheduled, only the interest arrears. A new debt instrument is recorded for the rescheduled interest arrears. Box 4.3 illustrates the statistical treatment of debt rescheduling from the creditor and debtor viewpoints, respectively. Gross and net debt of the debtor and creditor do not change.

4.40 The debt rescheduling transaction is recorded at the time agreed to by both parties (the contractually agreed time), and at the value of the new debt (which, under a debt rescheduling, is the same value as that of the old debt). If no date is set, the time at which the creditor records the change of terms is decisive. If the rescheduling of obligations due beyond the current period is linked to the fulfillment of certain conditions, when the obligations fall due (such as multiyear Paris Club rescheduling), entries are recorded only in the period when the specified conditions are met.

b. Debt refinancing

i. Definition

4.41 *Debt refinancing involves the replacement of an existing debt instrument or instruments, including any arrears, with a new debt instrument or instruments.* It can involve the exchange of the same type of debt instrument (such as a loan for a loan) or different types of debt instruments (such as a loan for a bond). For example, a public sector unit may convert various export credit debts into a single loan, or exchange existing bonds for new bonds through exchange offers given by its creditor (rather than a change in terms and conditions).

Box 4.3. Statistical Treatment of Debt Rescheduling

The following example illustrates the statistical treatment of debt rescheduling of 100 for a public sector unit as a creditor and debtor, respectively.

	Public sector unit as creditor				Public sector unit as debtor			
	Opening balance sheet	Transactions	Other economic flows	Closing balance sheet	Opening balance sheet	Transactions	Other economic flows	Closing balance sheet
Revenue								
Expense								
<i>Net worth / Net operating balance</i>	100	0		100	-100	0		-100
Nonfinancial assets								
<i>Net financial worth / Net lending (+) / net borrowing (-)</i>	100	0		100	-100	0		-100
Financial assets	100	0		100				
Existing debt instrument	100	-100		0				
New debt instrument	0	100		100				
Liabilities					100	0		100
Existing debt instrument					100	-100		0
New debt instrument					0	100		100
Gross debt	0	0		0	100	0		100
Net debt	-100	0		-100	100	0		100

ii. Statistical treatment of debt refinancing

4.42 The treatment of debt refinancing transactions is similar to debt rescheduling. The debt being refinanced is extinguished and replaced with a new financial instrument, or instruments. However, unlike debt rescheduling, the old debt is extinguished at the value of the new debt instrument, except for nonmarketable debt (for example, a loan) owed to official creditors.

4.43 Box 4.4 illustrates the statistical treatment of debt refinancing from the creditor and debtor viewpoints, respectively. If the refinancing involves a direct debt exchange, such as a loan-for-bond swap, the debtor records a reduction in liabilities under the appropriate debt instrument and an increase in liabilities to show the creation of the new obligation. The transaction is recorded at the value of the new debt (reflecting the current market value of the debt), and the difference between the value of the old and new debt instruments recorded as a revaluation. For the debtor, gross and net debt decreases as a result of the revaluation. For the creditor, net debt increases as a result of the revaluation of the financial claim on the debtor and gross debt is unaffected. However, if the debt is owed to official creditors and is nonmarketable, the old debt is extin-

guished at its original value with the difference in value with the new instrument recorded as debt forgiveness (see paragraphs 4.33–4.36).

4.44 Where there is no established market price for the new bond, an appropriate proxy is used. For example, if the bond is similar to other bonds being traded, the market price of a traded bond would be an appropriate proxy for the value of the new bond. If the debt being swapped was recently acquired by the creditor, the acquisition price would be an appropriate proxy. Alternatively, if the interest rate on the new bond is below the prevailing interest rate, the discounted value of the bond, using the prevailing interest rate, could serve as a proxy. If such information is not available, the face value of the bond being issued may be used as a proxy. See also debt-for-equity conversion below.

4.45 The balance sheet reflects the changes in the stock positions as a result of the transactions extinguishing the old debt instrument and creating the new debt instrument along with any valuation changes. For example, a loan-for-bond exchange will generally result in a reduction in the liabilities of the debtor (reduction in the claim of the creditor on the debtor) because the loan is recorded at nominal value, while the bond is recorded at market value, which may be lower.

Box 4.4. Statistical Treatment of Debt Refinancing

The following example illustrates the statistical treatment of debt refinancing for a public sector unit as a creditor and debtor, respectively. An existing debt instrument of 100 is exchanged for a new debt instrument of 95. The difference of –5 is recorded as a revaluation.

	Public sector unit as creditor				Public sector unit as debtor			
	Opening balance sheet	Trans-actions	Other economic flows	Closing balance sheet	Opening balance sheet	Trans-actions	Other economic flows	Closing balance sheet
Revenue								
Expense								
<i>Net worth / Net operating balance</i>	100	0	–5	95	–100	0	5	–95
Nonfinancial assets								
<i>Net financial worth / Net lending (+) / net borrowing (–)</i>	100	0	–5	95	–100	0	5	–95
Financial assets	100	0	–5	95				
Existing debt instrument	100	–95	–5	0				
New debt instrument	0	95		95				
Liabilities					100	0	–5	95
Existing debt instrument					100	–95	–5	0
New debt instrument					0	95		95
Gross debt	0	0	0	0	100	0	–5	95
Net debt	–100	0	5	–95	100	0	–5	95

4.46 If the proceeds from the new debt are used to partially pay off existing debt, any remaining debt is recorded as the extinguishment of the old debt and creation of a new debt, unless it is paid off through a separate transaction.

4.47 If the terms of any new borrowings are concessional, the creditor could be seen as providing a transfer to the debtor. Debt concessionality is discussed later in paragraphs 4.81–4.86.

3. Debt conversion and debt prepayment

a. Debt conversion

i. Definition

4.48 *Debt conversion (swap) is an exchange of debt—typically at a discount—for a nondebt claim (such as equity), or for counterpart funds that can be used to finance a particular project or policy.* In essence, public sector debt is extinguished and a nondebt liability created in a debt conversion.

4.49 A common example of debt conversion is debt-for-equity swaps. Determining the value of the equity may be difficult if the equity are not actively traded on a market, as is likely to be the case if the

unit that issued the equity is a controlled public corporation. If the equity are not traded, their valuation should be based on the total value of the corporation's assets minus the total value of its liabilities, where liabilities exclude equity and investment fund shares.

4.50 Further examples of debt conversions are other types of debt swaps (such as external debt obligations for exports or “debt-for-exports”) or debt obligations for counterpart assets that are provided by the debtor to the creditor for the creditor to use for a specified purpose, such as wildlife protection, health, education, and environmental conservation (debt-for-sustainable-development).

4.51 Direct and indirect debt conversions should be distinguished. A direct swap leads directly to the acquisition of a nondebt claim on the debtor (such as a debt-for-equity swap). An indirect debt conversion involves another claim on the economy, such as a deposit, that is subsequently used to purchase equity.

ii. Statistical treatment of debt conversion

4.52 For the debtor, a debt-for-equity swap results in a reduced debt liability and an increase in the non-

Box 4.5. Statistical Treatment of Debt Conversion

The following example illustrates the statistical treatment of a debt-for-equity swap for a public corporation as a creditor and debtor, respectively. An existing debt instrument of 100 is exchanged for an equity in the public corporation of 100.

	Public sector unit as creditor				Public sector unit as debtor			
	Opening balance sheet	Transactions	Other economic flows	Closing balance sheet	Opening balance sheet	Transactions	Other economic flows	Closing balance sheet
Revenue								
Expense								
Net worth / Net operating balance	100	0		100	-100	0		-100
Nonfinancial assets								
Net financial worth / Net lending (+) / net borrowing (-)	100	0		100	-100	0		-100
Financial assets	100	0		100				
Existing debt instrument	100	-100		0				
Equity and investment fund shares	0	100		100				
Liabilities					100	0		100
Existing debt instrument					100	-100		0
Equity and investment fund shares					0	100		100
Gross debt	0	0		0	100	-100		0
Net debt	-100	100		0	100	-100		0

debt liability “equity and investment fund shares.”¹⁷ For the creditor, the swap results in a reduced financial asset corresponding to the debt instrument, and an increase in the financial asset “equity and investment fund shares.” Box 4.5 illustrates the statistical treatment of debt conversion, using a debt-for-equity swap as an example, from the creditor and debtor viewpoints, respectively. Changes in the net worth and net financial worth of the creditor and debtor, respectively, will depend on whether the swap was at a discount or not.

b. Debt prepayment

i. Definition

4.53 *Debt prepayment consists of a repurchase, or early payment, of debt at conditions that are agreed between the debtor and the creditor.* The debt is extinguished in return for a cash payment agreed between the debtor and the creditor. Debt prepayment could be driven by the debtor’s need to reduce the cost of its debt portfolio by taking advantage of favorable

economic performance or market conditions to repurchase debt.

ii. Statistical treatment of debt prepayment

4.54 For the debtor, debt prepayment results in a reduced debt liability and a decrease in the financial asset “currency and deposits.” For the creditor, debt prepayment results in a reduced financial claim corresponding to the debt liability and an increase in the financial asset “currency and deposits.” Net debt of the debtor and creditor remain unchanged if there is no debt forgiveness involved. The transaction is recorded at the value of the debt prepaid.

4.55 If the debt is owed to official creditors and/or is nonmarketable (for example, a loan), an element of debt forgiveness could be involved (i.e., if the prepayment occurs within an agreement between the parties with an intention to convey a benefit). As explained in Debt forgiveness above, a capital transfer or capital grant from the creditor to the debtor is recorded for debt forgiveness, which reduces the value of the outstanding liability/claim. Box 4.6 illustrates the statistical treatment of debt prepayment, with an element of debt forgiveness, from the creditor and debtor viewpoints, respectively.

¹⁷Often, a third party is involved in a debt-for-equity swap, buying the claims from the creditor and receiving equity in a public corporation (the debtor).

Box 4.6. Statistical Treatment of Debt Prepayment

The following example illustrates the statistical treatment of a debt prepayment for a public sector unit as a creditor and debtor, respectively. A loan of 100 is prepaid with a cash amount of 85, implying that 15 is debt forgiveness (i.e., capital transfer/grant receivable/payable).

	Public sector unit as creditor				Public sector unit as debtor			
	Opening balance sheet	Trans-actions	Other economic flows	Closing balance sheet	Opening balance sheet	Trans-actions	Other economic flows	Closing balance sheet
Revenue						15		
Capital transfer/grant						15		
Expense		15						
Capital transfer/grant		15						
<i>Net worth / Net operating balance</i>	300	-15		285	100	15		115
Nonfinancial assets								
<i>Net financial worth / Net lending (+) / net borrowing (-)</i>	300	-15		285	100	15		115
Financial assets	300	-15		285	200	-85		115
Currency and deposits	200	+85		285	200	-85		115
Existing debt instrument	100	-15-85		0				
Liabilities					100	-100		0
Existing debt instrument					100	-15-85		0
Gross debt	0	0		0	100	-100		0
Net debt	-300	15		-285	-100	-15		-115

As a result of the debt forgiveness element, the debtor's gross and net debt decrease. For the creditor, the debt forgiveness element results in a decrease in financial assets and usually an increase in its net debt.

4. Debt assumption and debt payments on behalf of others

a. Debt assumption

i. Definition

4.56 *Debt assumption is a trilateral agreement between a creditor, a former debtor, and a new debtor (typically a government unit) under which the new debtor assumes the former debtor's outstanding liability to the creditor, and is liable for repayment of debt.* Calling a guarantee is an example of debt assumption. If the original debtor defaults on its debt obligations, the creditor may invoke the contract conditions permitting the guarantee from the guarantor to be called. The guarantor unit must either repay the debt or assume responsibility for the debt as the primary debtor (i.e., the liability of the original debtor is extinguished). A public sector unit can be the debtor

that is defaulting or the guarantor. A government can also, through agreement, offer to provide funds to pay off the debt obligation of another government unit owed to a third party.¹⁸

ii. Statistical treatment of debt assumption

4.57 The statistical treatment of debt assumption depends on (i) whether the new debtor acquires an effective financial claim on the original debtor, or not, and (ii) if there is no effective financial claim, the relationship between the new debtor and the original debtor and whether the original debtor is bankrupt or no longer a going concern.¹⁹ This implies three possibilities:

- **The debt assumer (new debtor) acquires an effective financial claim on the original debtor.**

¹⁸For example, a central government unit offering to provide funds to pay off the debt of a local government unit owed to a bank.

¹⁹An "effective financial claim" is understood to be a claim that is supported by a contract between the new debtor and the original debtor, or (especially in the case of governments) an agreement, with a reasonable expectation to be honored, that the original debtor will reimburse the new debtor. A "going concern" is understood to be an entity in business, or operating, for the foreseeable future.

The debt assumer records an increase in debt liabilities to the original creditor, and an increase in financial assets, such as in the form of loans, with the original debtor as the counterparty. The original debtor records a decrease in the original debt liability to the creditor and an increase in liabilities, such as in the form of a loan, from the debt assumer. The value of the claim on the original debtor is the present value of the amount expected to be received by the assumer. If this amount is equal to the liability assumed, no further entries are required. Gross debt of the debt assumer increases. Gross debt of the original debtor remains the same if the liability to the debt assumer is equal to the debt assumed. In this case, there is no change in the net debt of the debt assumer or the original debtor.

If the amount expected to be recovered is less than the liability assumed, the debt assumer records an expense in the form of capital transfer/grant to the original debtor for the difference between the liability incurred and the financial asset acquired in the form of loans. For the debt assumer, gross debt increases with the amount of debt assumed. Net debt of the assumer increases by an amount equal to the capital transfer or capital grant. Both gross and net debt of the original debtor decrease by an amount equal to the capital transfer or capital grant. See Box 4.7, example 1, for an illustration from both the new debtor and original (defaulting) debtor's viewpoints.

- **The debt assumer (new debtor) does not acquire an effective financial claim on the original debtor.** This may be the case when the original debtor is bankrupt or no longer a going concern, or when the debt assumer seeks to convey a benefit to the original debtor. The debt assumer records an expense in the form of a capital transfer/grant to the original debtor, and an increase in debt liabilities to the original creditor. The original debtor records revenue in the form of a capital transfer/grant, which extinguishes the debt liability on its balance sheet.

For the debt assumer, gross and net debt increase. For the original debtor, gross and net debt decrease. See Box 4.7, example 2, for an illustration from both the new debtor and original (defaulting) debtor's viewpoints. The exception to this case is when the original debtor is a public corporation that continues to be a going concern, which is discussed next.

- **The debt assumer (new debtor) does not acquire an effective financial claim and the original**

debtor is a public corporation that continues to be a going concern. The debt assumption amounts to an increase in the equity owned by the debt assumer in the public corporation (original debtor). The debt assumer records an increase in debt liabilities to the original creditor, and an increase in financial assets in the form of equity and investment fund shares. The public corporation records a decrease in the debt liability to the original creditor, and an increase in nondebt liabilities in the form of equity and investment funds shares. See Box 4.7, example 3, for an illustration from both the new debtor and original (defaulting) debtor's viewpoints.

The debt assumer's gross and net debt increase. The public corporation's (original debtor) gross and net debt decrease.

b. Debt payments on behalf of others

i. Definition

4.58 *Rather than assuming a debt, a public sector unit may decide to repay that debt or make a specific payment on behalf of another institutional unit (original debtor) without a guarantee being called or the debt being taken over.* In this case, the debt stays recorded solely on the balance sheet of the other institutional unit, the only legal debtor. As the existing debt remains with unaltered terms, this is not considered debt reorganization. Such a situation may occur where a debtor is experiencing temporary liquidity difficulties rather than permanent solvency problems.²⁰

ii. Statistical treatment of debt payments on behalf of others

4.59 The treatment of debt payments on behalf of others depends on whether the public sector unit paying the debt acquires an effective financial claim on the debtor or not. See Box 4.8 for an illustration of both instances.

4.60 **If the paying unit obtains an effective financial claim on the original debtor,** the paying unit records an increase in financial assets (such as loans) and a decrease in currency and deposits. The recipient (debtor) records a decrease in the original debt liability and an increase in another liability—which may be debt or nondebt—to the

²⁰Debt payments on behalf of others are different from the case where debt may be considered to be assumed at inception when a guarantee has a very high likelihood to be called, as described in paragraph 4.16.

Box 4.7. Statistical Treatment of Debt Assumption

Example 1: The following example illustrates the statistical treatment of a debt assumption for a general government unit and a public corporation, where the general government unit assumes a public corporation loan of 100 and acquires an effective financial claim against the defaulting public corporation. It is expected that the public corporation will repay 90 of the claim.

	General government (new debtor)				Public corporation (original debtor)			
	Opening balance sheet	Trans-actions	Other economic flows	Closing balance sheet	Opening balance sheet	Trans-actions	Other economic flows	Closing balance sheet
Revenue						10		
Capital transfer						10		
Expense		10						
Capital transfer		10						
<i>Net worth / Net operating balance</i>		-10		-10	-100	10		-90
Nonfinancial assets								
<i>Net financial worth / Net lending (+) / net borrowing (-)</i>		-10		-10	-100	10		-90
Financial assets		90		90				
Loan to public corporation		90		90				
Liabilities		100		100	100	-10		90
Loan from original creditor		100		100	100	-100		0
Loan from government					0	90		90
Gross debt	0	100		100	100	-10		90
Net debt	0	10		10	100	-10		90

Note:

- The general government's net worth and net financial worth decrease because of the difference between the liability incurred (100) and the financial claim acquired (90). For the same reason, the reverse occurs in the accounts of the original debtor.

Example 2: The following example illustrates the statistical treatment of a debt assumption for a general government unit and a private corporation, where the general government unit assumes a private corporation loan of 100 without an effective financial claim.

	General government (new debtor)				Private corporation (original debtor)			
	Opening balance sheet	Trans-actions	Other economic flows	Closing balance sheet	Opening balance sheet	Trans-actions	Other economic flows	Closing balance sheet
Revenue						100		
Capital transfer						100		
Expense		100						
Capital transfer		100						
<i>Net worth / Net operating balance</i>		-100		-100	-100	100		0
Nonfinancial assets								
<i>Net financial worth / Net lending (+) / net borrowing (-)</i>		-100		-100	-100	100		0
Financial assets								
Liabilities		100		100	100	-100		0
Loan from original creditor		100		100	100	-100		0
Gross debt	0	100		100	100	-100		0
Net debt	0	100		100	100	-100		0

Note:

- The general government's net worth and net financial worth decrease because the government has assumed the liability of 100. The private corporation's net worth and net financial worth increase because it no longer has the liability to the original creditor on its balance sheet.

Continues on the next page

Box 4.7. Statistical Treatment of Debt Assumption (continued)

Example 3: The following example illustrates the statistical treatment of a debt assumption for a general government unit and a public corporation, where the general government unit assumes a public corporation loan of 100. The general government does not acquire an effective financial claim on the defaulting public corporation and the public corporation continues to be a going concern.

	General government (new debtor)				Public corporation (original debtor)			
	Opening balance sheet	Trans- actions	Other economic flows	Closing balance sheet	Opening balance sheet	Trans- actions	Other economic flows	Closing balance sheet
Revenue								
Capital transfer								
Expense								
Capital transfer								
Net worth / Net operating balance		0		0	-100	0		-100
Nonfinancial assets								
Net financial worth / Net lending (+) / net borrowing (-)		0		0	-100	0		-100
Financial assets		100		100				
Equity in public corporation		100		100				
Liabilities		100		100	100	0		100
Loan from original creditor		100		100	100	-100		0
Equity liability to government						100		100
Gross debt	0	100		100	100	-100		0
Net debt	0	100		100	100	-100		0

Note:

- The general government and public corporation's net worth and net financial worth do not change. For general government, the incurrence of a debt liability is replaced by a financial asset, and for the public corporation, the debt liability is replaced by a nondebt liability in the form of the general government's equity ownership in the public corporation.

paying unit. If the claim of the paying unit on the debtor is in the form of a debt instrument, gross and net debt of the paying unit and recipient (debtor) do not change. However, if the claim of the paying unit on the debtor is in the form of a nondebt instrument:

- For the paying unit, gross debt remains unchanged, but net debt increases (due to the reduction in its financial assets in the form of currency and deposits); and
- For the recipient (debtor), gross and net debt decrease (due to the reduction in the debt liability).

4.61 If the paying unit does not obtain an effective financial claim on the original debtor, the paying unit records an expense in the form of a capital transfer—classified according to the nature of the recipient—and a decrease in financial assets in the form of currency and deposits. The expense reduces the paying unit's net worth and net finan-

cial worth. The decrease in financial assets in the form of currency and deposits results in an increase in the paying unit's net debt (its gross debt is unaffected). The receiving unit (debtor) records a revenue in the form of a capital transfer—classified according to the nature of the paying unit—and a decrease in the original debt liability. The revenue increases the debtor's net worth and net financial worth. The decrease in the original debt liability reduces the debtor's gross and net debt.

5. Some international debt relief initiatives

4.62 Often, there is international cooperation to provide debt relief to countries. Examples of such debt relief initiatives are the:

- the Paris Club debt rescheduling arrangements;
- a debt-service moratorium extended by creditors;

Box 4.8. Statistical Treatment of Debt Payments on Behalf of Others

Example 1: The following example illustrates the statistical treatment of a debt payment of 20 by public sector unit A on behalf of public sector unit B, where public sector unit A obtains an effective financial claim on public sector unit B.

	Public sector unit A				Public sector unit B			
	Opening balance sheet	Trans-actions	Other economic flows	Closing balance sheet	Opening balance sheet	Trans-actions	Other economic flows	Closing balance sheet
Revenue								
Capital transfer/grant								
Expense								
Capital transfer/grant								
<i>Net worth / Net operating balance</i>	20	0		20	-300	0		-300
Nonfinancial assets								
<i>Net financial worth / Net lending (+) / net borrowing (-)</i>	20	0		20	-300	0		-300
Financial assets	20	0		20				
Currency and deposits	20	-20		0				
Loan to unit B		20		20				
Liabilities					300	0		300
Original debt instrument					300	-20		280
Loan from unit A					0	20		20
Gross debt	0	0		0	300	0		300
Net debt	-20	0		-20	300	0		300

Example 2: The following example illustrates the statistical treatment of a debt principal payment of 20 by public sector unit A on behalf of public sector unit B, where public sector unit A does not obtain an effective financial claim on public sector unit B.

	Public sector unit A				Public sector unit B			
	Opening balance sheet	Trans-actions	Other economic flows	Closing balance sheet	Opening balance sheet	Trans-actions	Other economic flows	Closing balance sheet
Revenue						20		
Capital transfer/grant						20		
Expense		20						
Capital transfer/grant		20						
<i>Net worth / Net operating balance</i>	20	-20		0	-300	20		-280
Nonfinancial assets								
<i>Net financial worth / Net lending (+) / net borrowing (-)</i>	20	-20		0	-300	20		-280
Financial assets	20	-20		0				
Currency and deposits	20	-20		0				
Liabilities					300	-20		280
Original debt instrument					300	-20		280
Gross debt	0	0		0	300	-20		280
Net debt	-20	20		0	300	-20		280

- the Heavily Indebted Poor Countries (HIPC) Initiative; and
- the Multilateral Debt Relief Initiative (MDRI).

a. The Paris Club debt rescheduling arrangements

4.63 The Paris Club,²¹ which is an informal group of creditor countries, can “treat” debt owed (contracted or guaranteed) by the government and/or the public sector of the debtor country to creditor countries or their appropriate institutions: such debts comprise officially guaranteed export credits and bilateral loans. Two types of “treatment” may be implemented by the Paris Club:

- flow treatments of usually both scheduled amortization and interest payments falling due in a given period; and
- stock treatments of the entire outstanding principal at a given date, for countries with a good track record with the Paris Club if this would ensure an end to the rescheduling process.

4.64 These flow and stock treatments are recorded according to their nature and may include any of the debt reorganization measures described earlier in this chapter. However, a specific case is the recording of debt service falling due between the Paris Club Agreed Minute and the specified implementation date. Under Paris Club debt rescheduling arrangements, creditor countries, as a group, usually agree in the nonbinding “Agreed Minute” signed by them that payment terms and conditions of applicable debt falling due before the specified effective (implementation) date of the Paris Club bilateral agreement might not be paid on schedule. However, interest continues to accrue based on the existing loan terms, but payments are not made, up until the point when there is a formal bilateral agreement.

4.65 When such payments fall due, they are considered technical arrears.²² Given that there is a mutually signed understanding between the debtor and the creditor that the terms and conditions in the mother agreement are temporarily suspended, technical arrears are treated in the debtor economy as rescheduled short-term debt and classified under other accounts payable, until the effective date of the bilateral agreement when

the new terms apply.²³ When the new terms apply, there may be a need to reclassify technical arrears to the appropriate instruments under liabilities.

b. Debt-service moratorium extended by creditors

4.66 *A debt-service moratorium involves an individual creditor permitting the debtor a formal suspension of debt-service payments falling due within a given period.* A debt-service moratorium is often granted in the event of natural disasters (such as the moratorium granted to tsunami-affected countries in 2005) and usually involves a formal exchange of letters but not necessarily a formal bilateral agreement.

4.67 As the intention of the action is usually to provide the debtor with short-term debt relief, a debt-service moratorium extended by creditors should be classified as debt rescheduling, provided there is a formal process that demonstrates agreement on behalf of both the debtor and creditor, such as the exchange of letters, to delay payment. The nonpayment of debt service according to the original contract does not create arrears in such instances. If one debt-service payment was renegotiated, the debtor records reduction in the appropriate debt liability (representing the repayment of the obligations as if they were paid when due) with an increase recorded under the same debt instrument (representing the creation of a new debt). However, if the moratorium results in a renegotiation of all subsequent debt-service payments, the original debt is recorded as being repaid in full and a new debt is created (see footnote 15).

c. The Heavily Indebted Poor Countries (HIPC) Initiative

4.68 The HIPC Initiative was launched in 1996 by the IMF and World Bank, soliciting the cooperation of the international financial community (including multilateral organizations and governments) to reduce external debt burdens of the most heavily indebted poor countries. Debt relief under the HIPC Initiative is conditional and is provided in a two-step process, generally referred to as the “decision point” and the “completion point.”

²¹See Chapter 10 for more details on the Paris Club.

²²*External Debt Statistics: Guide for Compilers and Users*, Chapter 3.

²³This approach is applicable to other debt rescheduling arrangements with similar terms.

4.69 To reach the “decision point,” debtor countries must fulfill four conditions.²⁴ Once a country has met or made sufficient progress in meeting these criteria, the Executive Boards of the IMF and World Bank formally decide on its eligibility for debt relief, and the international community commits to reducing debt to a level that is considered sustainable. HIPC provides parallel debt relief on the part of official bilateral or private creditors, and multilateral organizations. Once a country reaches its “decision point” it may immediately begin receiving interim relief on its debt service as it falls due. Once a debtor country has reached the “completion point,” it receives full and irrevocable reduction in debt committed at decision point.²⁵

4.70 In 1999, the HIPC initiative was enhanced as an outcome of a comprehensive review by the World Bank’s International Development Association (IDA) and the IMF, which included public consultations. The debt burden thresholds of the initiative were adjusted downward, which enabled a broader group of countries to qualify for larger volumes of debt relief. A number of creditors, including the main multilaterals, started to provide earlier assistance to qualifying countries in the form of interim relief at decision point and a “floating completion point” was introduced, providing incentives to speed up reforms and increase country ownership.

4.71 The statistical treatment of debt relief under the HIPC Initiative depends on the specific type of relief provided, and may include debt forgiveness, debt rescheduling, and debt refinancing (see also paragraph 4.74).

d. Multilateral Debt Relief Initiative (MDRI)

4.72 In 2005, the HIPC Initiative was supplemented by the Multilateral Debt Relief Initiative (MDRI) to help accelerate progress toward the United Nations

²⁴The country must (i) be eligible to borrow from the World Bank’s International Development Agency (IDA), which provides interest-free loans and grants to the world’s poorest countries, and from the IMF’s Extended Credit Facility, which provides loans to low-income countries at subsidized rates; (ii) face an unsustainable debt burden that cannot be addressed through traditional debt relief mechanisms; (iii) have established a track record of reform and sound policies through IMF and World Bank supported programs; and (iv) have developed a Poverty Reduction Strategy Paper through a broad-based participatory process in the country.

²⁵At this stage, a country must have: (i) established a track record of good performance under programs supported by loans from the IMF and the World Bank; (ii) implemented satisfactorily key reforms agreed at the decision point; and (iii) adopted and implemented its Poverty Reduction Strategy Paper for at least one year.

Millennium Development Goals (MDGs).²⁶ The MDRI allows for 100 percent relief on eligible debts by three multilateral institutions—the IMF, the World Bank’s IDA, and the African Development Fund (AfDF). Countries that have reached or will eventually reach the “completion point” under the joint IMF-World Bank enhanced HIPC Initiative are eligible for the MDRI. Member countries (including non-HIPCs) at or below the per capita income threshold of US\$380 are also eligible.

4.73 The MDRI goes further than HIPC by providing full debt relief so as to immediately free up additional resources to help these countries reach the MDGs. Unlike the HIPC Initiative, the MDRI does not propose any parallel debt relief on the part of official bilateral or private creditors, or of multilateral institutions beyond the IMF, IDA, and the AfDF. However, in early 2007, the Inter-American Development Bank also decided to provide similar debt relief to the five HIPCs in the Western Hemisphere. Although debt relief under the enhanced HIPC Initiative was focused mainly on relief of debt flows, debt relief under the MDRI provides relief of the stock of debt.

4.74 Although the MDRI is often referred to as debt cancellation by the IMF, it is in fact the MDRI Trusts providing a grant to a debtor country, and this grant is used to pay off eligible debts to the IMF. Therefore, recording the MDRI should reflect the grant component and changes in the interest and amortization schedules of the debtor. Because the liability is shown as resting with the central bank in some countries, whereas in other countries the liability is with the central government, the statistical treatment of the MDRI stock-of-debt-relief is as follows:

- **Relief from the IMF’s HIPC and MDRI Trusts:** Record revenue in the form of an external capital grant (credit) from the MDRI Trusts to institutional unit that has the external debt liability to the IMF (i.e., the central government or the central bank) and a reduction in the external debt liability (debit) of that unit to the IMF indicating the repayment of the debt.
- If the external liability to the IMF is resting with the **central bank**, the debt relief will affect general government statistics only when the proceeds from the external grant flow through to general government. General government may benefit from this through higher profit transfers,

²⁶The United Nations Millennium Development Goals (MDGs) are focused on halving poverty by 2015.

a direct transfer from the central bank to a special government deposit account, or a reduction in central bank claims on government (i.e., if the proceeds from the IMF loan were originally on-lent to government).

If the central bank has on-lent the proceeds from the external loan to government, recording of the proceeds from grant component of the MDRI relief in the government accounts will differ for countries that compile their accounts on an accrual basis and for those that compile their accounts only on a cash basis. For countries using accrual accounting, the grant arising from MDRI debt relief via the central bank would be shown directly in general government statistics as a capital transfer receivable from the central bank, with a corresponding decrease in government's outstanding liabilities to the central bank.²⁷ However, for countries using cash accounting, no revenue or financing transactions are recorded in general government statistics. This is because there was no cash flow between government and the central bank or between the government and the MDRI Trusts as a result of the debt relief. The benefits to government from such debt relief are in the form of reduced interest payments and domestic debt repayments to the central bank, over time.²⁸ Actual transfers from the central bank to general government should, however, be recorded as such, with the corresponding reduction in government's debt liabilities to the central bank.

- If the external debt liability to the MDRI Trusts lies with the **central government**, the statistical treatment is similar to that of MDRI relief from IDA and AfDF, but with a different counterparty (i.e., the MDRI Trusts, not IDA or AfDF). In other words, general government records a capital grant receivable from the MDRI Trusts (credit) and a reduction in its external liability to the IMF (debit).
- **Relief from IDA and AfDF:** MDRI debt relief implies a direct debt forgiveness, which is described in paragraphs 4.33–4.36 of this chapter.

²⁷Because the central bank has on-lent the proceeds from the IMF loan to the general government, the latter has a domestic debt liability to the central bank. See paragraph 4.158.

²⁸Government's domestic liability to the central bank is lower as a result of the lower external debt liability of the central bank to the IMF.

D. Other Issues Relating to Debt

1. Debt write-offs and write-downs

a. Definition

4.75 *Debt write-offs or write-downs refer to unilateral reductions by a creditor, of the amount owed to it.* This usually occurs when a creditor concludes that a debt obligation has no value or a reduced value because part or all of the debt is not going to be repaid (frequently the debtor is insolvent). For example, a public corporation that borrowed from the general government unit may be insolvent. As a result, the general government unit's claim loses some, or all, of its value and is written down or written off on the balance sheet of the government unit (creditor). In contrast, a unilateral write-off by a debtor, or debt repudiation, is not recognized in the macroeconomic statistical systems.

b. Statistical treatment of debt write-offs and write-downs

4.76 Unlike debt forgiveness (see paragraphs 4.33–4.36), which is a mutual agreement and, therefore, a transaction, debt write-off is a unilateral action and, therefore, recorded as an “other economic flow” in the macroeconomic statistical systems.²⁹ Box 4.9 illustrates the statistical treatment of debt write-offs.

4.77 The financial asset is removed from the balance sheet of the creditor through an “other economic flow” called “other changes in the volume of assets and liabilities.” As a result, net debt of the creditor increases (due to the decline in financial assets), and gross debt is unaffected.

4.78 The corresponding liability should be removed from the balance sheet of the debtor, also through an “other change in the volume of assets and liabilities.” As a result, the debtor's gross and net debt decrease.

2. New money facilities

4.79 In some debt reorganization arrangements that assist the debtor to overcome temporary financing difficulties, new money facilities are agreed with the creditor to repay maturing debt obligations. The two debt

²⁹As explained in Appendix 2 of this *Guide*, macroeconomic accounting distinguishes between two types of flows that can change the value of a stock position in the balance sheet: transactions and other economic flows. Two types of other economic flows exist: holding gains or losses (revaluations) and other changes in the volume of assets and liabilities.

Box 4.9. Statistical Treatment of Debt Write-offs

The following example illustrates the statistical treatment of a debt write-off by a public sector unit as a creditor. A general government unit writes off a loan of 100 extended to a public corporation.

	General government unit as creditor				Public corporation as debtor			
	Opening balance sheet	Transactions	Other economic flows	Closing balance sheet	Opening balance sheet	Transactions	Other economic flows	Closing balance sheet
Revenue								
Capital transfer/grant								
Expense								
Capital transfer/grant								
<i>Net worth / Net operating balance</i>	100		-100	0	-100		100	0
Nonfinancial assets								
<i>Net financial worth / Net lending (+) / net borrowing (-)</i>	100		-100	0	-100		100	0
Financial assets	100		-100	0				
Loan to public corporation	100		-100	0				
Liabilities					100		-100	0
Loan from government					100		-100	0
Gross debt	0	0	0	0	100	0	-100	0
Net debt	-100	0	100	0	100	0	-100	0

Note:

- Although a debt write-off is a unilateral action, in macroeconomic statistics the write-off has to be recorded for the debtor also to maintain consistency.

instruments involved—the maturing debt obligation and the new money facility—are treated separately (see Box 4.10 for an illustration). If the terms of the new borrowings are concessional, the creditor is providing a transfer to the debtor. Debt concessionality is discussed in paragraphs 4.81–4.86.

3. Debt defeasance

4.80 *With defeasance, a debtor unit removes liabilities from its balance sheet by pairing them with financial assets, the income and value of which are sufficient to ensure that all debt-service payments are met.* Defeasance may be carried out by placing the assets and liabilities in a separate account within the institutional unit concerned or by transferring them to another unit. In either case, the macroeconomic statistical systems do not recognize defeasance as affecting the outstanding debt of the debtor. Thus, no transactions with respect to defeasance are recorded in the *GFSM* system, as long as there has been no change in the legal obligations of the debtor. When the assets and liabilities are transferred to a separate account within the unit,

both assets and liabilities should be reported on a gross basis. If a separate unit is created to hold the assets and liabilities, that new unit should be treated as an ancillary unit and consolidated with the defeasing unit.

4. Debt concessionality

a. Introduction

4.81 There is no consistent definition or measure of debt concessionality in macroeconomic statistics. However, it is generally accepted that concessional loans occur when units lend to other units and the contractual interest rate is intentionally set below the market interest rate that would otherwise apply. The degree of concessionality can be enhanced with grace periods,³⁰ and frequencies of payments and maturity periods favorable to the debtor.

4.82 Since the terms of a concessional loan are more favorable to the debtor than market conditions would

³⁰The grace period is the period from the disbursement of the loan until the first payment due by the debtor.

Box 4.10. Statistical Treatment of New Money Facilities

The following example illustrates the statistical treatment of a new money facility by a public sector unit as a creditor and debtor, respectively. A public sector unit, as debtor, agrees with another public sector unit, the creditor, to use new money facilities of 100 to repay maturing debt obligations of 100 to the creditor.

	Public sector unit as creditor				Public sector unit as debtor			
	Opening balance sheet	Trans-actions	Other economic flows	Closing balance sheet	Opening balance sheet	Trans-actions	Other economic flows	Closing balance sheet
Revenue								
Capital transfer/grant								
Expense								
Capital transfer/grant								
<i>Net worth / Net operating balance</i>	350	0		350	-100	0		-100
Nonfinancial assets								
<i>Net financial worth / Net lending (+) / net borrowing (-)</i>	350	0		350	-100	0		-100
Financial assets	350	0		350	0	0		0
Currency and deposits	250	100-100		250	0	100-100		0
Original loan	100	-100		0				
New money facility (loan)	0	100		100				
Liabilities					100	0		100
Original loan					100	-100		0
New money facility (loan)					0	100		100
Gross debt	0	0		0	100	0		100
Net debt	-350	0		-350	100	0		100

otherwise permit, concessional loans effectively include a transfer from the creditor to the debtor. However, the means of incorporating the transfer impact within the *SNA* and other macroeconomic statistics have not been fully developed, although various alternatives have been advanced. Accordingly, until the appropriate treatment of concessional debt is agreed, information on concessional debt should be provided in supplementary tables.

b. The case of Paris Club debt reorganization

4.83 In debt reorganization through the Paris Club, debt reduction in present value terms is calculated using a market-based discount rate, usually the OECD's Commercial Interest Reference Rate (CIRR).³¹ The difference between the nominal

value of the applicable debt and its present value is the amount of capital transfer derived from the debt reorganization arrangements.

4.84 Where such capital transfers are significant, countries are encouraged to provide these data as a memorandum item to the debt statistics. The recording should be made as a one-off transaction at the point of loan origination equal to the difference between the nominal value of the debt and its present value (using a relevant market discount rate such as the CIRR). This approach has the advantage of considering all the possible sources of transfers in debt concessionality—maturity period, grace period, frequency of payments, interest rate, and other applicable costs—and is consistent with nominal valuation of loans. In addition, this approach is consistent with the economic equivalence between a concessional loan of say, 100 units with an embedded grant element of 35 percent, and a commercial loan of 100 units combined with a direct grant of 35 units. The transfer value is calculated at the time it occurs, that is, at the inception of the debt, as the difference between its nominal value and its present value

³¹These rates are set on the fifteenth day of each month for fifteen currencies on the basis of secondary market yields on government bonds with residual maturity of five years and, in addition, three and seven years for the Canadian dollar, the Danish krone, the Japanese yen, the Swedish krona, the Swiss franc, the UK pound, the U.S. dollar, and the euro.

using the payment stream and the relevant market interest rate as the discount factor.

4.85 If the loan is retired before maturity and replaced by a new loan, adjustment of the previously recorded transfers in the memorandum item is required. This means that the value of any transfers not yet received on the original loan being replaced would need to be subtracted from the calculated value of the original transfer value; otherwise, the amount of concessionality recorded over time would be overstated.

4.86 This adjustment can be done by recalculating the transfer at inception using the actual payment schedule outturn, including the retirement of the entire remaining loan at the time of rescheduling.³² The recalculated value should replace the originally calculated value in the historical memorandum item data, so that the historical data reflect the actual transfers received, without mixing any new concessional transfer with the value not received on the original loan, when there may have been a different set of market-related interest rates. In practice, this calculation may require considerable information and take substantial compilation effort.

5. Debt arising from financial leases

a. Definition

4.87 *A financial lease is a contract under which the lessor as legal owner of an asset conveys substantially all risks and rewards of ownership of the asset to the lessee.* In other words, the lessee becomes the economic owner of the asset. Under a financial lease, the lessor records a loan to the lessee with which the lessee acquires the asset. Thereafter, the leased asset is shown on the balance sheet of the lessee and not of the lessor; the corresponding loan is shown as an asset of the lessor and a liability of the lessee.

4.88 The following situations would normally lead to a lease being classified as a financial lease:

- The lease contract transfers legal ownership of the asset to the lessee at the end of the lease term; or
- The lease contract gives the lessee the option to acquire legal ownership of the asset at the end of the lease term at a price that is sufficiently low that the exercise of the option is reasonably certain; or

- The lease term is for the major part of the economic life of the asset; or
- At inception, the present value of the lease payments amounts to substantially all of the value of the asset; or
- If the lessee can cancel the lease, the losses of the lessor are borne by the lessee; or
- Gains or losses in the residual value of the residual asset accrue to the lessee; or
- The lessee has the ability to continue the lease for a secondary period for a payment substantially lower than market value.

4.89 These examples may not be conclusive that substantially all of the risks have been conveyed. For example, if the asset is conveyed to the lessee at the end of the lease at its fair value at that time, the lessor holds substantial risks of ownership. The lease is then considered to be an operating lease (see below). Financial leases are also called finance leases or capital leases, highlighting that the motivation is to finance acquisition of the asset. Accounting practices generally recognize financial leases in the same manner as this definition. In addition to financial leases recognized in business accounts, a treatment akin to financial leases is adopted for some public-private partnerships³³ (see 2008 SNA, Chapter 22, The General Government and Public Sectors).

4.90 Financial leases are distinguished from other types of leases identified in macroeconomic statistics because, substantially, all the risks and rewards of ownership are transferred from the legal owner of the good (the lessor) to the user of the good (the lessee). Other types of leases are:

- **Operating leases.** An operating lease is one in which the legal owner of a produced asset is also the economic owner and assumes the operating risks and rewards from ownership of the asset. One indicator of an operating lease is that the legal owner has the responsibility to provide maintenance and repair of the asset, as needed. Under an operating lease, the asset remains on the balance sheet of the lessor. Payments made under an operating lease are called “rentals” and are recorded as payments for a service (expense).

³²This retirement value would include any amount that is forgiven because such forgiveness is recorded as a capital transfer in the period given.

³³For example, a build, own, operate, transfer scheme could be established to assign the risks and rewards of ownership to the government, and the private partner would be treated as the provider of a financial lease.

Box 4.11. Statistical Treatment of Financial Leases

The following example illustrates the statistical treatment of a financial lease from the viewpoint of the lessor and lessee, respectively. A publicly controlled bank leases an aircraft to a publicly controlled aviation company. When the public corporation takes economic ownership of the aircraft, it is shown as an asset in the balance sheet of the aviation company. The acquisition of the aircraft is financed by a loan, which is recorded as a liability. The market value of the aircraft is 1,000. The lease begins on January 1, and an annual payment of 140 is made on December 31 each year, for ten years, at which time the lessee purchases the aircraft for a price equal to its residual value of 32.8. The contract is based on an interest rate of 7 percent per annum. For simplicity, it is assumed that there are no flows (such as consumption of fixed capital and revaluation of the asset to reflect its market price) affecting the value of the aircraft (i.e., nonfinancial assets) over the ten year period.

The unconsolidated entries for year 1 are:

	Public sector unit as lessor (bank)				Public sector unit as lessee (aviation company)			
	Opening balance sheet	Trans- actions	Other economic flows	Closing balance sheet	Opening balance sheet	Trans- actions	Other economic flows	Closing balance sheet
Revenue		70						
Interest receivable		70						
Expense						70		
Interest payable						70		
<i>Net worth / Net operating balance</i>	1,000	70		1,070	2,500	-70		2,430
Nonfinancial assets	1,000	-1,000	0	0	0	1,000		1,000
<i>Net financial worth / Net lending (+) / net borrowing (-)</i>	0	1,070		1,070	2,500	-1,070		1,430
Financial assets		1,070		1,070	2,500	-140		2,360
Currency and deposits		140		140	2,500	-140		2,360
Loan to aviation company		1,000+ 70-140		930				
Liabilities						930		930
Loan from bank						1,000+ 70-140		930
Gross debt	0	0		0	0	930		930
Net debt	0	-1,070		-1,070	-2,500	1,070		-1,430

Note:

- Interest is calculated as $0.07 \times 1,000 = 70$.

The unconsolidated entries for year 2 are:

	Public sector unit as lessor (bank)				Public sector unit as lessee (aviation company)			
	Opening balance sheet	Trans- actions	Other economic flows	Closing balance sheet	Opening balance sheet	Trans- actions	Other economic flows	Closing balance sheet
Revenue		65.1						
Interest receivable		65.1						
Expense						65.1		
Interest payable						65.1		
<i>Net worth / Net operating balance</i>	1,070	65.1		1,135.1	2,430	-65.1		2,364.9
Nonfinancial assets	0			0	1,000			1,000
<i>Net financial worth / Net lending (+) / net borrowing (-)</i>	1,070	65.1		1,135.1	1,430	-65.1		1,364.9
Financial assets	1,070	65.1		1,135.1	2,360	-140		2,220
Currency and deposits	140	140		280	2,360	-140		2,220
Loan to aviation company	930	65.1-140		855.1				
Liabilities					930	-74.9		855.1
Loan from bank					930	65.1-140		855.1
Gross debt	0	0		0	930	-74.9		855.1
Net debt	-1,070	-65.1		-1,135.1	-1,430	65.1		-1,364.9

Note:

- Interest is calculated as $0.07 \times 930 = 65.1$.

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Box 4.11. Statistical Treatment of Financial Leases (continued)

The unconsolidated entries for year 10 are:

	Public sector unit as lessor (bank)				Public sector unit as lessee (aviation company)			
	Opening balance sheet	Trans- actions	Other economic flows	Closing balance sheet	Opening balance sheet	Trans- actions	Other economic flows	Closing balance sheet
Revenue		11.3						
Interest receivable		11.3						
Expense						11.3		
Interest payable						11.3		
<i>Net worth / Net operating balance</i>	<i>1,421.5</i>	<i>11.3</i>		<i>1,432.8</i>	<i>2,078.5</i>	<i>-11.3</i>		<i>2,067.2</i>
Nonfinancial assets	0			0	1,000			1,000
<i>Net financial worth / Net lending (+) / net borrowing (-)</i>	<i>1,421.5</i>	<i>11.3</i>		<i>1,432.8</i>	<i>1,078.5</i>	<i>-11.3</i>		<i>1,067.2</i>
Financial assets	1,421.5	11.3		1,432.8	1,240	-172.8		1,067.2
Currency and deposits	1,260	140+32.8		1,432.8	1,240	-140-32.8		1,067.2
Loan to aviation company	161.5	11.3-140 -32.8		0				
Liabilities					161.5	-161.5		0
Loan from bank					161.5	11.3-140 -32.8		0
Gross debt	0	0		0	161.5	-161.5		0
Net debt	-1,421.5	-11.3		-1,432.8	-1,078.5	11.5		-1,067.2

Note:

- Interest is calculated as $0.07 \times 161.5 = 11.3$.
- The residual value of the aircraft the after the last lease payment is $32.8 = 161.5 + 11.3 - 140$.

- **Resource leases.** A resource lease is an agreement whereby the legal owner of a natural resource with an indefinite life makes it available to a lessee in return for a regular payment. This payment is recorded as rent. The resource continues to be recorded on the balance sheet of the lessor even though it is used by the lessee. Other arrangements involving natural resources may amount to an outright sale of a natural resource to the lessee (such as electromagnetic spectrum licenses granted indefinitely).
- **Contracts, leases, and licenses.** A transferable lease, other than a financial lease, that meets the definition of an economic asset is shown in the balance sheet as a nonproduced nonfinancial asset, and does not form part of debt. Examples are permissions to use natural resources that are not recorded as outright ownership of these resources, permissions to undertake certain activities (including some government permits), and

entitlements to purchase a good or service on an exclusive basis.³⁴

b. Statistical treatment of financial leases

4.91 The statistical treatment of financial leases is designed to capture the economic reality of such arrangements, by treating assets under a financial lease as if they were purchased and owned by the user.³⁵

4.92 It is common for a financial lease to be for the whole of the life of the asset, but this need not necessarily be so.

- When the lease is for the whole of the life of the asset, the value of the imputed loan will correspond

³⁴For more details, see paragraphs 13.11–13.16 in *BPM6* and Chapter 17, part 5, of *2008 SNA*.

³⁵The legal arrangements usually do not reflect the economic nature of the event.

to the present value of the payments to be made under the lease agreement. This value will cover the cost of the asset and include accrued interest and, if applicable, a fee charged by the lessor.

- When the lease is for less than the whole life of the asset, the value of the imputed loan should be estimated in the same way as above. At the end of the lease, the asset will appear on the balance sheet of the lessee and its value will be equal to the value of the loan owed to the lessor at that time.

4.93 The loan is repaid through payments during the contract (which consist of interest and principal elements³⁶) and any residual payment at the end of the contract (or alternatively, by the return of the good to the lessor). The statistical treatment of financial leases from the lessor and lessee viewpoints, respectively, is illustrated in Box 4.11.

4.94 For the lessee, gross and net debt increase at the inception of the lease, and subsequent lease payments reduce gross and net debt. The interest component of the subsequent lease payments results in a decrease in net worth and net financial worth. The principal payments do not affect the lessee's net worth and net financial worth, as they involve transactions in financial assets and liabilities.

4.95 For the lessor, gross debt is not affected by a financial lease. The net debt of the lessor decreases because of an increase in its financial assets due to the lease payments.

6. Debt of special purpose entities

a. Definition

4.96 Special purpose entities (SPEs) are described in Chapter 2, paragraphs 2.64–2.67. For public sector debt purposes, the appropriate institutional sectorization of the SPE must be determined. If the SPE is part of the public sector, its debt should be part of the debt of public sector or relevant subsector.

4.97 As noted in Chapter 2, governments may establish public corporations that sell goods or services exclusively to government, without tendering for a government contract in competition with the private sector. Such a public corporation is called an artificial subsidiary and should be classified as part of

the general government sector (its parent unit). Often, such government artificial subsidiaries are set up as SPEs. These units, which are legally corporations, should be classified as part of the general government sector and their debt liabilities are thus part of general government debt.

4.98 A government may conduct fiscal activities through an entity that is resident abroad. For example, a government may fund its outlays by issuing securities abroad through an SPE. This SPE is not part of the general government in either home or host economy. Such entities are not treated in the same way as embassies and other territorial enclaves because they operate under the laws of the host economy. Governments may be direct investors in these units/entities. However, special imputations of transactions and stock positions between the government and the SPE abroad must be used to ensure that any fiscal operations undertaken through nonresident entities are reflected in the transactions and stock positions of the home government concerned.³⁷ As a result, the government will show an actual, or imputed, debt to its SPE arising from any debts the SPE incurs on behalf of the government.

b. Statistical treatment of nonresident special purpose entities of general government

4.99 When an entity resident in one economy borrows on behalf of the government of another economy, and the borrowing is for fiscal purposes, the statistical treatment in the accounts of that government is:

- At the time of borrowing: a transaction creating a debt liability of the government to the borrowing entity is imputed equal to the amount borrowed. The counterpart entry is an increase in the government's equity in the borrowing entity.
- At the time funds or assets acquired with the funds (as applicable) are transferred to the government: a transaction for the flow of funds or assets recorded, matched by a reduction of the government's equity in the borrowing entity by the same amount.
- At the time expenses are incurred, or assets are transferred by the borrowing entity to a third party (i.e., are not transferred to the government), where

³⁶If a financial intermediary is involved, these elements also include FISIM (financial intermediation services indirectly measured)—a concept used in national accounts statistics.

³⁷The reason for having a special approach for government entities is that, unlike in the private sector, the nonresident entity undertakes functions at the behest of general government for public policy, not commercial purposes. Without this approach, a misleading picture of government expenditure and debt could arise.

Box 4.12. Statistical Treatment of Debt and Flows Arising from Nonresident SPEs of General Government

The following two examples illustrate the statistical treatment of debt and flows related to a nonresident SPE created by the general government.

Example 1: The government of country A establishes an SPE in country B to borrow and use the proceeds to acquire fixed assets in the form of machinery and equipment on behalf of government. The SPE borrows 100 in country B to finance the acquisition of these nonfinancial assets. The machinery and equipment are used by the SPE in country B.

	General Government A				Nonresident SPE of general government			
	Opening balance sheet	Trans-actions	Other economic flows	Closing balance sheet	Opening balance sheet	Trans-actions	Other economic flows	Closing balance sheet
Revenue								
Expense								
<i>Net worth / Net operating balance</i>		0		0		0		0
Nonfinancial assets						(c) 100		100
<i>Net financial worth / Net lending (+) / net borrowing (-)</i>		0		0		-100		-100
Financial assets		100		100		100		100
Currency and deposits						(a) 100		
Currency and deposits						(c) -100		
Loan from SPE to government (imputed)						(b) 100		100
Equity in SPE (imputed)		(b) 100		100				
Liabilities		100		100		200		200
Loan from SPE to government (imputed)						(a) 100		100
Borrowing by SPE		(b) 100		100		(b) 100		100
Equity liability to government (imputed)								
Gross debt	0	100		100	0	100		100
Net debt	0	100		100	0	0		0

Note:

- In the accounts of government A, the SPE borrowing “(a)” is imputed by recording a loan from the SPE equal to the amount of the borrowing, 100 or “(b),” and a corresponding increase in the equity of government in the SPE of 100 “(b).” The SPE imputes an equity liability to government or “(b),” with a corresponding financial claim on government (loan to government) “(b).”
- The machinery and equipment of 100 acquired are reported as nonfinancial assets of the SPE “(c),” with a corresponding entry showing the decrease in currency and deposits “(c).”
- Government’s gross debt increases by 100, as reflected by the loan from the SPE to government. The SPE’s debt increases by 100 as well (the SPE’s equity liability to government of 100 is not debt).
- Note that the result of the imputations is that value of government’s liabilities and net worth in the closing balance sheet are the same as if the government had undertaken the activities itself.

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applicable: a current or capital transfer between the government and the entity is imputed, with the matching entry of a reduction in the value of the government’s equity.

4.100 These entries are made symmetrically for both the government and the borrowing entity, as illustrated in the two examples in Box 4.12. These entries do not affect the transactions or stock positions between the borrowing entity and its creditors or other

third parties, which are recorded as they occur, with no imputations.

7. Debt arising from securitization

a. Definition

4.101 *Securitization occurs when a unit, named the originator, conveys the ownership rights over financial or nonfinancial assets, or the right to*

Box 4.12. Statistical Treatment of Debt and Flows Arising from Nonresident SPEs of General Government (continued)

Example 2: The government of country A establishes an SPE in country B, with an equity investment of 20, which will borrow and incur expenses on behalf of country A's government. The SPE borrows 100 in country B to finance government A's expense on services of 111 in country C.

	General Government A				Nonresident SPE of general government			
	Opening balance sheet	Trans-actions	Other economic flows	Closing balance sheet	Opening balance sheet	Trans-actions	Other economic flows	Closing balance sheet
Revenue						111		
Capital transfer (imputed)						(e) 111		
Expense		111				111		
Expense on services		(e) 111				(d) 111		
Capital transfer (imputed)								
<i>Net worth / Net operating balance</i>		-111		-111		0		0
Nonfinancial assets								
Net financial worth / Net lending (+) / net borrowing (-)		-111		-111		0		0
Financial assets		-11		-11		109		109
Currency and deposits		(a) -20		-20	(a) 20			
Currency and deposits					(b) 100			9
Currency and deposits					(d) -111			
Loan from SPE to government (imputed)					(c) 100			100
Equity in SPE (imputed)		(c) 100						
Equity in SPE		(a) 20		9				
Equity in SPE (imputed)		(e) -111						
Liabilities		100		100		109		109
Loan from SPE to government (imputed)		(c) 100		100				
Borrowing by SPE					(b) 100			100
Equity liability to government (imputed)					(c) 100			
Equity liability to government					(a) 20			9
Equity liability to government					(e) -111			
Gross debt	0	100		100	0	109		109
Net debt	0	120		120	0	-9		-9

Note:

- In the accounts of government A, the contribution of 20 to the SPE is recorded as an actual transaction that increases its equity in the SPE "(a)," with a corresponding decrease in the financial asset currency and deposits "(a)." The SPE records an increase in its equity liability to government "(a)," with a corresponding increase in the financial asset currency and deposits "(a)."
- In the accounts of government A, the SPE borrowing "(b)" is imputed by recording a loan from the SPE equal to the amount of the borrowing, 100 or "(c)," and a corresponding increase in the equity of government in the SPE of 100 "(c)." The SPE imputes an equity liability to government "(c)," with a corresponding financial claim (loan to government) "(c)."
- In the accounts of the SPE, the expense of 111 on services in country C is recorded as an expense "(d)," with a corresponding decrease in the financial asset currency and deposits "(d)."
- In the accounts of government A, an expense of 111 "(e)" is imputed as a capital transfer to the SPE, with a corresponding imputed decrease in the equity holdings in the SPE "(e)." In the accounts of the SPE, a revenue of 111 "(e)" is imputed as a capital transfer from government, with a corresponding imputed decrease in the equity liability to government "(e)."
- The overall result is a reduction in the net worth of government of 111 (reflecting the expense), and no change in the net worth of the SPE.
- Government A's gross debt increases by 100, as reflected by the loan from the SPE to government. The SPE's gross debt increases by 100 as well (the SPE's equity liability to government of 9 (= 100 + 20 - 111) is not debt).
- Note that the result of the imputations is that value of government's liabilities and net worth in the closing balance sheet are the same as if the government had undertaken the activities itself.

receive specific future flows, to another unit, named the securitization unit. In return, the securitization unit pays an amount to the originator from its own source of financing. The securitization unit obtains its own financing by issuing debt securities using the assets or rights to future flows transferred by the originator as collateral.³⁸ When asset-backed securities are issued by a public sector unit, they form part of public sector debt.

4.102 Securitization results in debt securities for which coupon or principal payments (or both) are backed by specific financial or nonfinancial assets or future revenue streams. A variety of assets or future revenue streams may be used for securitization, including residential and commercial mortgage loans, consumer loans, government loans, and credit derivatives. A general government unit may issue debt securities backed by specific, earmarked revenue. In macroeconomic statistical systems, the ability to raise taxes or other government revenue is not recognized as a government asset that could be used for securitization.³⁹ Nevertheless, the earmarking of future revenue, such as receipts from toll roads, to service debt securities issued by a general government (or public sector) unit may resemble securitization (see paragraphs 4.106 and 4.108).

4.103 Securitization schemes vary within and across debt securities markets. At the broadest level, a distinction is made between whether a securitization unit is involved or not. In securitization schemes where debt securities are issued by a securitization unit, the issuing institutional unit is a financial intermediary in the financial corporations sector. The securitization unit is often an SPE. However, as described in Chapter 2, paragraph 2.65, resident SPEs functioning in only a passive manner relative to general government and carrying out fiscal activities are not treated as separate institutional units in the macroeconomic statistical systems. Such SPEs are treated as part of general government regardless of their legal status. Therefore:

- If a securitization unit is involved, four types of schemes may be distinguished from a macroeconomic statistics perspective:

³⁸For a detailed discussion of securitization, see *Handbook on Securities Statistics*, Bank for International Settlements, European Central Bank, and International Monetary Fund, May 2009, as well as 2008 SNA, paragraphs 22.131–22.133. This *Handbook* also considers that securitization can occur when there is no securitization unit or transfer of assets.

³⁹For example, future tax revenue has not yet accrued, presumably because the event that leads to the tax liability has not yet taken place, and consequently no asset exists on the government balance sheet.

- **True-sale securitization**,⁴⁰ which are schemes involving a true transfer (sale) of assets, from a macroeconomic statistics perspective⁴¹, from the original asset owner's balance sheet to that of the securitization unit;
 - **No true-sale securitization**,⁴² which are schemes that do not involve a true transfer of assets—from a macroeconomic statistics perspective—from the original asset owner's balance sheet to that of the securitization unit (see footnote 41);
 - **No asset securitization**,⁴³ which are schemes involving securitization of future revenue streams that are not recognized as assets in macroeconomic statistics; and
 - **Synthetic securitization with a securitization unit**,⁴⁴ which are schemes involving the transfer of credit risk only (but not the transfer of assets), through a securitization unit.
- If no securitization unit is involved, two types of securitization are possible:
- **On-balance sheet securitization**,⁴⁵ which are schemes in which the original asset owner issues new debt securities and there is no transfer of assets; and
 - **Synthetic securitization without a securitization unit**,⁴⁶ which are schemes involving the transfer of credit risk only (but not the transfer of assets), through the direct issue of debt securities by the original asset owner.

b. Statistical treatment of debt and flows arising from securitization

4.104 True-sale securitization involves debt securities issued by a securitization unit where the under-

⁴⁰“Type 2” schemes in the *Handbook on Securities Statistics* and the “first case” of securitization in the 2008 SNA.

⁴¹To be treated as a sale, the asset must already appear on the balance sheet of the public sector unit (for example, central government) and there must be a full change of ownership to the securitization unit, as evidenced by the transfer of the risks and rewards linked to the asset. The following must be considered: (i) The purchase price should equal the current market price, otherwise it is not a sale; and (ii) If the originator (for example, central government) guarantees repayment of any debt related to the asset acquired by the securitization unit, it is unlikely that all of the risks associated with the asset have been transferred and there is, therefore, no sale.

⁴²Derived from the “first case” of securitization in the 2008 SNA.

⁴³The “second case” of securitization in the 2008 SNA.

⁴⁴“Type 3” schemes in the *Handbook on Securities Statistics*.

⁴⁵“Type 1” schemes in the *Handbook on Securities Statistics*.

⁴⁶“Type 3” schemes in the *Handbook on Securities Statistics*.

lying assets have been transferred from the original asset owner's (i.e., the originator's) balance sheet to that of the securitization unit. The securitization unit uses the proceeds from selling the debt securities to investors to finance the acquisition of the assets. The revenue stream from the pool of assets (typically, interest payments and principal repayments on the loans) is used to make the coupon payments and principal repayments on the debt securities issued. In case of a true-sale securitization by a public sector unit, the original asset owner's gross debt remains unchanged. The gross debt of the securitization unit increases as a result of the securities issued. If this unit is a **public** financial corporation, its debt is part of public sector debt. A resident securitization "unit" that is an SPE but does not meet the requirements of an institutional unit, is treated as part of general government regardless of its legal status. Such an SPE's debt is part of general government's debt (see also paragraph 4.103).

4.105 If **no true-sale** had taken place from a macro-economic statistics perspective (see footnote 41), the amount received from the securitization unit by the public sector unit as the originator is treated as borrowing, usually in the form of a loan.⁴⁷ The debt securities issued by the securitization unit are part of public sector debt, if the securitization unit is part of the public sector.

4.106 **No asset securitization** involves securitization of future revenue streams. As mentioned in paragraph 4.102, the ability to raise taxes or other government revenue is not recognized as a government asset that could be used for true-sale securitization. In most cases, it is not the rights to the future revenue that are used as collateral, but the obligation of the public sector unit to use a sufficient amount of the future income to repay the borrowing in full. If more income is earned than is needed to repay the borrowing, the excess is retained by the public sector unit. So, if rights to future government revenue are transferred to a securitization unit, the amount received from the securitization unit by the public sector unit, arising from the proceeds of the debt securities issue, is treated as borrowing, usually in the form of a loan.⁴⁸ The debt securities issued by the securitization unit are part of public sector debt, if the securitization unit is part of the public sector.

⁴⁷When both the originator and the securitization unit are in the public sector, this loan will be eliminated from public sector debt through consolidation. See Chapter 8 of this *Guide*.

⁴⁸When both the originator and the securitization unit are in the public sector, this loan will be eliminated from public sector debt through consolidation. See Chapter 8 of this *Guide*.

4.107 *Synthetic securitization involves transfer of the credit risk related to a pool of assets without transfer of the assets themselves, either through a securitization unit or through the direct issuing of debt securities by the original asset owner.*

- **Synthetic securitization with a securitization unit.** The owner of the asset buys (protection buyer) from the securitization unit (protection seller) protection against possible default losses on the pool of assets using credit default swaps (CDS).⁴⁹ The protection seller issues a debt instrument backed by these pooled assets. The proceeds from the issue of debt securities by the securitization unit are invested in low-risk, low-return financial assets (such as deposits), and the income accrued on this investment, together with the premium from the CDS, finances coupon payments on the debt securities made by the securitization unit to the investors. On maturity, the holders of the debt are reimbursed, provided there has been no default on the pool of assets. If there is a default, the protection buyer is compensated by the protection seller for the default losses related to the pool of assets, while the holders of the debt securities (investors) suffer losses for the same value.

The debt securities issued by the securitization unit are part of public sector debt, if the securitization unit is part of the public sector.

- **Synthetic securitization without a securitization unit.** The owner of the asset issues credit-linked notes (CLN). CLN are debt securities that are backed by reference assets (such as loans and bonds), with an embedded CDS allowing credit risk to be transferred from the issuer to investors. Credit protection for the pool assets is sold by the investors to the protection buyer (or issuer or the CLN) by buying the CLN. Repayment of principal and interest on the notes is conditional on performance of the pool of assets. If no default occurs during the life of the note, the full redemption value of the note is paid to investors at maturity. If a default occurs, investors receive the redemption value of the note minus the value of the default losses.

With synthetic securitization without a securitization unit, the debt securities (CLN) issued by a public sector unit are part of that unit's debt.

⁴⁹A credit default swap is a financial derivative whose primary purpose is to trade credit default risk.

4.108 *On-balance sheet securitization involves debt securities backed by a future revenue stream generated by the assets. The assets remain on the balance sheet of the debt securities issuer (the original asset owner), typically as a separate portfolio. There is no securitization unit involved.* The issue of debt securities provides the original asset owner with funds and the debt securities form part of the original asset owner's debt.

8. Debt arising from bailout operations

a. Definition

4.109 A bailout refers to a rescue from financial distress. It is often used when a government unit provides either short-term financial assistance to a corporation to help it survive a period of financial difficulty, or a more permanent injection of financial resources to help recapitalize the corporation. A bailout may in effect constitute nationalization if the government acquires control of the corporation it is bailing out. Bailouts of financial institutions are a case in point. They are likely to involve highly publicized, one-time transactions often involving large amounts and are, therefore, easy to identify.

4.110 Intervention of general government may take various forms. For example, general government might intervene directly by:

- Providing recapitalization through an injection of financial resources ("capital injection") or the assumption of a failed corporation's liabilities;
- Providing loans and/or acquiring equity in the corporations in distress (i.e., "requited recapitalization"), on favorable terms, or not; or
- Purchasing assets from the corporation to be assisted at prices greater than their true market value.

4.111 Indirectly, general government may intervene by extending the range of guarantees it is prepared to offer.

4.112 A government might create an SPE, or other type of public body, to finance or to manage the sales of assets or liabilities of the corporation to be assisted. The sectorization rules, as outlined in Chapter 2, should be applied to determine whether this SPE or public body should be treated as part of the general government or public financial corporations sector.

b. Statistical treatment of bailout operations

4.113 The assistance provided by government (or other public sector unit) to the unit suffering financial distress is usually recorded as a **capital transfer** or an **equity injection**. However, if government acquires an effective financial claim on the unit suffering financial distress, the assistance is recorded as a loan from government to the distressed unit (see paragraphs 4.57 and 4.60).

4.114 The unit providing the assistance records expense in the form of a capital transfer and a decrease in financial assets (such as in the form of currency and deposits) or an increase in liabilities, depending how this capital transfer is financed. The recipient records revenue in the form of a capital transfer and an increase in financial assets in the form of currency and deposits. If the capital transfer is financed through the issue of new debt, gross and net debt of the unit providing the assistance increase, and its net worth and net financial worth decrease as a result of the expense. If the capital transfer is financed with a reduction in financial assets (such as in the form of currency and deposits), net debt increases, and gross debt is unaffected. The recipient's net debt decreases, and its gross debt is unaffected.

4.115 In determining the magnitude of the capital transfers, the following points need to be taken into account:

- If the government buys assets from the corporation to be assisted, the amount paid may be more than the true market price of the assets.
- The purchase of assets other than loans should be recorded at the current market price, and a capital transfer should be recorded for the difference between the market price and the actual amount paid.
- Governments often buy loans from financial institutions during a bailout. Unless a loan becomes tradable and is traded with established market value, it is always recorded at nominal value. Only if a market for the loans develops and the loans are regularly traded, they are reclassified as securities (see paragraphs 3.34 and 3.39) and also recorded at market value.
- When government buys a loan at the nominal value, which is much less than the fair value, no capital transfer for the difference in value is recorded. However, if there is reliable information that some loans are irrecoverable, their value is reduced to zero in the balance sheet of the corporation (with an "other volume change") and a capital transfer is recorded equal to the value paid by the government

Box 4.13. Statistical Treatment of Debt and Flows Arising from Bailout Operations

The following examples illustrate the statistical treatment of debt and flows arising from bailout operations.

Example 1: Government provides a nonrepayable, unrequited capital injection of 100 to a public financial corporation. Government finances this by issuing bonds of 75 and using 25 cash. For simplicity, it is assumed that there are no other economic flows, such as revaluations.

	General government				Public financial corporation			
	Opening balance sheet	Trans-actions	Other economic flows	Closing balance sheet	Opening balance sheet	Trans-actions	Other economic flows	Closing balance sheet
Revenue						100		
Capital transfer						100		
Expense		100						
Capital transfer		100						
<i>Net worth / Net operating balance</i>	250	-100		150		100		100
Nonfinancial assets								
<i>Net financial worth / Net lending (+) / net borrowing (-)</i>	250	-100		150		100		100
Financial assets	250	-25		225				
Currency and deposits	250	-25		225	100			100
Liabilities		75		75				
Debt securities		75		75				
Gross debt	0	75		75	0	0		0
Net debt	-250	100		-150	0	-100		-100

Note:

- Government debt increases by 75 (assuming no other economic flows, such as revaluations). Government's net worth declines by 100, as reflected by an increase in liabilities of 75 and a decrease in currency and deposits of 25.

Example 2: On January 1, government provides a "capital injection" of 100 to a public financial corporation. The public financial corporation agrees to repay this loan over five years, at an interest rate of 4 percent (the market interest rate is 10 percent). The public financial corporation will repay 20 plus interest on December 31, every year. Government finances the loan to the public corporation by issuing bonds of 75 and using 25 cash. For simplicity, it is assumed that there are no other economic flows, such as revaluations.

	General government				Public financial corporation			
	Opening balance sheet	Trans-actions	Other economic flows	Closing balance sheet	Opening balance sheet	Trans-actions	Other economic flows	Closing balance sheet
Revenue		10				6		
Interest income		10				6		
Capital transfer								
Expense		6				10		
Interest expense		6				10		
Capital transfer								
<i>Net worth / Net operating balance</i>	250	4		254		-4		-4
Nonfinancial assets								
<i>Net financial worth / Net lending (+) / net borrowing (-)</i>	250	4		254		-4		-4
Financial assets	250	79		329		76		76
Currency and deposits	250	-25+24		249	100-24			76
Loan to public financial corporation		100+10		80				
		-6-24						
Liabilities		75		75		80		80
Debt securities		75		75				
Loan from government						100+10		80
						-6-24		
Gross debt	0	75		75	0	80		80
Net debt	-250	-4		-254	0	4		4

Note:

- Government debt increases by 75 (assuming no other economic flows, such as revaluations). Government's net worth increases by 4, as reflected by an increase in of 79 in financial assets and a decrease of 75 in liabilities. The public financial corporation's debt increases by 80, and its net worth decreases by 4.
- From the market interest rate of 10 percent follows that government is providing a capital transfer to the public financial corporation equal to 6 in the first year, 4.8 in the second, 3.6 in the third, 2.4 in the fourth and 1.2 in the last year.
- Interest receivable/payable is recorded as 10 for government and the public financial corporation, respectively.

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Box 4.13. Statistical Treatment of Debt and Flows arising from Bailout Operations (continued)

Example 3: A public financial corporation is in financial distress. Government purchases a financial asset other than loans from the public financial corporation for 150. The market price of the asset is 100. Government issues bonds to finance this operation.

	General government				Public financial corporation			
	Opening balance sheet	Trans-actions	Other economic flows	Closing balance sheet	Opening balance sheet	Trans-actions	Other economic flows	Closing balance sheet
Revenue						50		
Capital transfer						50		
Expense		50						
Capital transfer		50						
<i>Net worth / Net operating balance</i>	220	-50		170	100	50		150
Nonfinancial assets								
<i>Net financial worth / Net lending (+) / net borrowing (-)</i>	220	-50		170	100	50		150
Financial assets	220	100		320	100	50		150
Currency and deposits	220	150-100=50		220		150		150
Financial asset other than loans		100		100	100	-100		0
Liabilities		150		150				
Debt securities		150		150				
Gross debt	0	150		150	0	0		0
Net debt	-220	50		-170	-100	-50		-150

Note:

- Government debt increases by 150 (assuming no other economic flows, such as revaluations) because government borrowed 150 to finance this bailout operation. Government's net worth declines by 50, as reflected by the acquisition of the asset for more than its true market price (capital transfer of 50). The net worth of the public financial corporation increases by 50, as reflected by the capital transfer receivable from government due to the acquisition of the asset for more than its market value.
- The financial asset (other than loans) is recorded by government at its market price (100).

Example 4: A public financial corporation is in financial distress. (a) Government purchases loans from the public financial corporation at their nominal value of 150. According to reliable information, all of these loans are irrecoverable at time of the purchase and that their fair value, in fact, are zero. (b) However, there is a possibility that some of these loans will be recovered in the future. Before the end of that same year, it was determined that 10 of these loans will be recovered in the future. If all these events take place in year 1, then the statistical treatment is:

	General government				Public financial corporation			
	Opening balance sheet	Trans-actions	Other economic flows	Closing balance sheet	Opening balance sheet	Trans-actions	Other economic flows	Closing balance sheet
Revenue						150		
Capital transfer						(a) 150		
Expense		150						
Capital transfer		(a) 150						
<i>Net worth / Net operating balance</i>	220	-150	10	80	150	150	-150	150
Nonfinancial assets								
<i>Net financial worth / Net lending (+) / net borrowing (-)</i>	220	-150	10	80	150	150	-150	150
Financial assets	220	-150	10	80	150	150	-150	150
Currency and deposits	220	(a) -150		70				150
Loans			(a) 0		150	(a) 150	(a) -150	0
Loans			(b) 10	10				
Liabilities								
Debt securities								
Gross debt	0	0	0	0	0	0	0	0
Net debt	-220	150	-10	-80	-150	-150	150	-150

Note:

- Overall, government's net worth declines by 140, as reflected by the capital transfer to the public financial corporation (150) and an increase of 10 in the value of the loans acquired from the public financial corporation. The net worth of the public financial corporation remains the same, as reflected by the capital transfer receivable from government (150) in the form of currency and deposits and the decline of 150 in the value of the loans in its balance sheet.
- If the value of the loan increases in subsequent years (because more of the loans become recoverable), these increases will also be recorded as revaluations in the government's balance sheet.

to the corporation. If some or all of these loans subsequently become recoverable, this is shown as a revaluation in the government's balance sheet.

- If government extends a guarantee as part of a bailout, the guarantees should be recorded according to whether this is a one-off guarantee or part of a standardized guarantee scheme (see paragraphs 4.10–4.20 for details on the statistical treatment of guarantees).

4.116 When a public sector unit, such as government, intervenes by means of an **equity injection** in the corporations in distress, the statistical treatment depends on whether a realistic return can be expected on this investment or not:

- If the public sector unit (investor unit) can expect a realistic return on the investment, the investor unit records an increase in financial assets in the form of equity and investment fund shares, and a decrease in financial assets (such as in the form of currency and deposits) or an increase in liabilities, depending how the acquisition of equity is financed. If the acquisition of equity is financed through the issue of new debt, the investor unit's gross and net debt increase, and its net worth and net financial worth remain unchanged (because all the transactions only result in changes in the composition of financial assets and liabilities). If the acquisition of equity is financed with a reduction in financial assets (such as in the form of currency and deposits), the investor's gross debt remains unchanged, but net debt increases due to the decline in financial assets.

The corporation in distress records an increase in financial assets (such as in the form of currency and deposits), and an increase in nondebt liabilities in the form of equity and investment fund shares. Gross debt remains unchanged, but net debt decreases due to the increase in financial assets.

- The portion of the investment on which no realistic return can be expected—which may be the entire investment—is treated as a capital transfer, as described in paragraph 4.113.

4.117 If a public institutional unit is created by government solely to assume management of the bailout, the unit should be classified in the general government sector. If the new unit has other functions and the bailout is a temporary task, its classification as a government unit or a public corporation is made according to the rules described in the section on restructuring agencies in Chapter 2.

4.118 The statistical treatment of several bailout operations are illustrated in Box 4.13.

9. Debt arising from public-private partnerships

4.119 Governments engage in public-private partnerships (PPPs) for a variety of reasons, including the expectation that private management may lead to more efficient production and that access to a broader range of financial sources can be obtained. This section, which is based on *2008 SNA*, paragraphs 22.154–22.163, provides guidance on how to determine to which unit(s) the PPP assets and associated debt should be attributed. Further developments in the treatment of PPPs in the SNA await the adoption of standards under development by the International Public Sector Accounting Standards Board (IPSASB).

a. Definition

4.120 *Public-private partnerships (PPPs) are long-term contracts between two units, whereby one unit acquires or builds an asset or set of assets, operates it for a period, and then hands the asset over to a second unit.* Such arrangements are usually between a private enterprise and government, but other combinations are possible, with a public corporation as either party or a private nonprofit institution as the second party. These schemes are described variously as PPPs, Private Finance Initiatives (PFIs), or Build, Own, Operate, Transfer schemes (BOOTs). For ease of reference, the rest of this section will refer to PPPs between government and a private enterprise.

4.121 PPPs vary greatly. A general description that includes the most common arrangement is as follows: A private enterprise agrees to acquire a complex of fixed assets and then to use those assets together with other production inputs to produce services. Those services may be delivered to the government, either for use as an input to its own production (for example, motor vehicle maintenance services) or for distribution to the public without payment (for example, education services or untolled roads), in which case the government will make periodic payments during the contract period.⁵⁰ The private enterprise expects to recover its costs and earn an adequate rate of return on its investment from those payments. Alternatively, the private enterprise

⁵⁰The contract period refers to the length of the contractual agreement between the parties involved in the PPP.

may sell the services to the public (for example, a toll road). The price is regulated by the government but set at a level that will allow the private enterprise to recover its costs and earn a return on its investment. At the end of the contract period, the government may gain legal and economic ownership of the assets, possibly without payment. There can be many variations in PPP contracts regarding aspects such as the disposition of the assets at the end of the contract, the required operation and maintenance of the assets during the contract, and the price, quality, and volume of services produced.

4.122 The decision whether to record PPP-related assets and liabilities in the government's or the private enterprise's balance sheet is not straightforward. The private enterprise is responsible for acquiring the fixed assets, although the acquisition is often supported by the backing of the government. The contract may require, however, that the assets meet the design, quality, and capacity specified by the government; be used in the manner specified by the government to produce the services required by the contract; and be maintained in accordance with standards specified by the government. Typically, the assets have service lives much longer than the contract period so that, for this reason alone, the government will control the assets, bear the risks, and receive the rewards for a major portion of the assets' service lives. Thus, it frequently is not obvious whether the private enterprise or the government controls the assets over their service lives or which party bears the majority of the risks and reaps the majority of the rewards. "Majority" should be assessed from

an economic point of view. The value of a single risk and reward may imply the "majority" in some cases, while in other cases, the value of a number of separate risks and rewards may do so.

b. Statistical treatment of public-private partnerships

4.123 The statistical treatment depends on the economic ownership of the asset(s) involved. In macro-economic statistics, a distinction is made between legal ownership and economic ownership. With a PPP, the legal and economic owner may be different parties. *The legal owner of entities such as goods and services, natural resources, financial assets, and liabilities is the institutional unit entitled in law and sustainable under the law to claim the benefits associated with the entities. The economic owner of entities such as goods and services, natural resources, financial assets, and liabilities is the institutional unit entitled to claim the benefits associated with the use of the entity in question in the course of an economic activity by virtue of accepting the associated risks.* Box 4.14 summarizes the associated risks to be considered.

4.124 It is not possible to prescribe rules that will be applicable to every PPP type of arrangement. The provisions of each PPP must be evaluated in order to decide which party is the economic owner of the asset(s) involved during and at the end of the contract period.

Box 4.14. Consideration of Risks Associated with PPP-Related Asset(s) to Determine Economic Ownership*

The factors that need to be considered in assessing economic ownership of PPP-related assets include those associated with acquiring the asset and those associated with using the asset. Some of the risks associated with acquiring the asset are:

- The **degree to which the government controls** the design, quality, size, and maintenance of the assets; and
- **Construction risk**, which includes the possibility of additional costs resulting from late delivery, not meeting specifications or building codes, and environmental and other risks requiring payments to third parties.

Some of the risks associated with using the asset in production are:

- **Supply risk**, which covers the degree to which the government is able to control the services produced, the units to which the services are provided and the prices of the services produced;
- **Demand risk**, which includes the possibility that the demand for the services, either from government or from the public at large in the case of a paying service, is higher or lower than expected;
- **Residual value and obsolescence risk**, which includes the risk that the value of the asset will differ from any price agreed for the transfer of the asset to government at the end of the contract period; and
- **Availability risk**, which includes the possibility of additional costs or the incurrence of penalties because the volume and/or quality of the services do not meet the standards specified in the contract.

The relative importance of each factor is likely to vary with each PPP.

*At the time of drafting this *Guide*, this approach is consistent with draft proposals by IPSASB which use considerations of risk to determine the control of the assets.

Box 4.15. Practical Applications of the Economic Ownership Concept

To operationalize the criteria for economic ownership (i.e., whether the risks and rewards accrue to government or to the private enterprise) countries have followed different approaches.

Under Eurostat's guidelines to its member states, a sufficient condition for a PPP to be excluded from government's accounts has been that the private enterprise bears the construction risk in the project and either the availability or the demand risks in using the asset in production. In 2010, Eurostat clarified how other elements (in addition to these three principal risk categories) should be analyzed to determine the distribution of risks between the public and private sectors; notably, the existence and scope of grantor guarantees, majority financing by the grantor of capital cost during the construction phase, and financial aspects of termination clauses (see *ESA95 Manual on Government Deficit and Debt, 2010 Edition*, section VI.5).

Some countries are following accounting standards (for example, IPSAS) applicable to financial leases (as explained in paragraphs 4.87–4.95). If a PPP contract is deemed to be a financial lease, an asset and liability are recorded on the public sector unit's balance sheet, interest and depreciation are recorded as operating expenses, and amortization is recorded as a financial asset transaction. IPSAS treat a lease as a financial lease to the extent that the following criteria are met: (i) the contract period covers most of the useful life of the asset; (ii) the asset is transferred to the lessee (the public sector unit in the case of a PPP) at the end of the contract; (iii) the lessee can purchase the asset at a bargain price at the end of the contract; (iv) the present value of payments prescribed in the contract is close to the fair market value of the asset; and (v) the asset is useful mainly to the lessee.

Box 4.15 presents a brief discussion on how some countries apply, in practice, the concept of economic ownership related to PPPs. The following description of the statistical treatment of PPPs is based on the guidelines prescribed in the *2008 SNA*.

4.125 If the government is assessed as being the economic owner of the asset(s) during the contract period but does not make any explicit payment at the beginning of the contract, a transaction must be imputed to cover the acquisition of the asset(s). The most common suggestion is that the acquisition be made through an imputed financial lease because of the similarity with actual financial leases. The implementation of that choice, however, depends on the specific contract provisions, how they are interpreted, and possibly other factors. For example, a loan could be imputed and actual government payments to the private enterprise, if they exist, could be partitioned so that a portion of each payment represents repayment of the loan (see paragraphs 4.87–4.95). An example of the statistical treatment of a financial lease, where government is the lessee, is presented in Box 4.11.

4.126 If the private enterprise is assessed as being the economic owner of the asset(s) during the contract period, any debt associated with the acquisition of the asset(s) is attributed to the private enterprise. Normally, the government obtains legal and economic ownership of the assets at the end of the contract without any significant payment. However, two approaches are possible to account for the acquisition of the asset(s) by government:

- Over the contract period, government gradually builds up a financial claim (for example, other

accounts receivable) and the private enterprise gradually accrues a corresponding liability (for example, other accounts payable), such that both values are equal to the residual value of the assets at the end of the contract period. At the end of the contract period, government records the acquisition of the asset, with a reduction in the financial claim (other accounts receivable) as the counterpart entry. The other unit records the disposal of the asset, with a reduction in the liability (other accounts payable) as the counterpart entry. See Box 4.16, example 1, for an illustration of this approach. Implementing this approach may be difficult because it requires new transactions to be constructed using assumptions about expected asset values and interest rates.

- An alternative approach is to record the change of legal and economic ownership from the other unit to government as a capital transfer at the end of the contract period. At the end of the contract period, government records revenue in the form of a capital transfer which finances the acquisition of the asset and the other unit records an expense in the form of a capital transfer to government, financed by the disposal of the asset. See Box 4.16, example 2, for an illustration of this approach. The capital transfer approach does not reflect the underlying economic reality as well, but data limitations, uncertainty about the expected residual value of the assets and contract provisions allowing various options to be exercised by either party could make recording a capital transfer acceptable on pragmatic grounds.

Box 4.16. Statistical Treatment of Debt and Flows Arising from PPPs

The following simplified examples illustrate the statistical treatment of debt and flows arising from PPPs from the viewpoint of both parties.

Example 1a: Government and a private corporation agree in a long-term contract that the private corporation build a fixed asset for 100, operates it for a period of 20 years, and then hands the asset over to government at a residual value of 20. The private corporation is assessed as being the economic and legal owner during the contract period and the government obtains legal and economic ownership at the end of the contract without an explicit payment. Government pays the private corporation 5 per year for the use of the fixed asset. The private corporation finances the construction of the asset from existing cash balances. For simplicity, the example ignores consumption of fixed capital and assumes there are no other economic flows. These should be recorded in the usual manner.

Government gradually accrues a financial claim to acquire the asset at its residual value at the end of year 20, and the private corporation gradually accrues a corresponding liability.

In the **first year**, the following stock positions and flows are recorded in the statistics for government and the private corporation, respectively:

	General government				Private corporation			
	Opening balance sheet	Trans-actions	Other economic flows	Closing balance sheet	Opening balance sheet	Trans-actions	Other economic flows	Closing balance sheet
Revenue		1				5		
Capital transfer		(c) 1						
Sales of goods and services						(b) 5		
Expense		5				1		
Use of goods and services		(b) 5						
Capital transfer						(c) 1		
<i>Net worth / Net operating balance</i>	135	-4		131	220	4		224
Nonfinancial assets						(a) 100		100
<i>Net financial worth / Net lending (+) / net borrowing (-)</i>	135	-4		131	220	-96		124
Financial assets	135	-4		131	220	-95		125
Currency and deposits					220	(a) -100		120
Currency and deposits	135	(b) -5		130		(b) 5.0		5
Other accounts receivable		(c) 1		1				
Liabilities						1		1
Other accounts payable						(c) 1		1
Gross debt	0	0		0	0	1		1
Net debt	-135	4		-131	-220	96		-124

Note:

- The private corporation builds a fixed asset for 100 “(a)”, financed through a decrease in currency and deposits “(a)”.
- For the operating lease (i.e., the use of the asset) government has an expense of 5 per year in cash (use of goods and services) “(b)”. The private corporation receives 5 per year in cash from the government (sales of goods and services) “(b)”.
- Government gradually builds up a financial claim (1 per year, 20 residual value ÷ 20 years) “(c)” on the private corporation to receive the fixed asset without an explicit payment at the end of year 20; the corresponding entry is an imputed capital transfer of 1 per year over 20 years “(c)”. The private corporation gradually accrues a corresponding liability “(c)” and an imputed capital transfer “(c)”.
- The private corporation’s gross debt increases by 1 every year.
- At the end of year 1, government’s net worth decreases by 4 (as reflected in the cash payment of 5 for the operating lease and the capital transfer of 1. The private corporation’s net worth increases by 4, as reflected in revenue of 5 for the operating lease and expense of 1 (which is equal to the net changes in assets and liabilities).

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10. Debt arising from off-market swaps

4.127 In macroeconomic statistics, swaps⁵¹ give rise to financial derivatives, which are nondebt instruments

⁵¹A swap contract involves the counterparties exchanging, in accordance with prearranged terms, cash flows based on the reference prices of the underlying items.

(see paragraph 2.6). However, off-market swaps have a debt component.

a. Definition

4.128 An off-market swap is a swap which has a nonzero value at inception as a result of having

Box 4.16. Statistical Treatment of Debt and Flows Arising from PPPs (continued)

Example 1b: Government and a private corporation agree in a long-term contract that the private corporation build a fixed asset for 100, operates it for a period of 20 years, and then hands the asset over to government at a residual value of 20. The private corporation is assessed as being the economic and legal owner during the contract period and the government obtains legal and economic ownership at the end of the contract without an explicit payment. Government pays the private corporation 5 per year for the use of the fixed asset. The private corporation finances the construction of the asset from existing cash balances. For simplicity, the example ignores consumption of fixed capital and assumes there are no other economic flows. These should be recorded in the usual manner.

Government gradually accrues a financial claim to acquire the asset at its residual value at the end of year 20, and the private corporation gradually accrues a corresponding liability.

In **year 20**, the following stock positions and flows are recorded in the statistics for government and the private corporation, respectively:

	General government				Private corporation			
	Opening balance sheet	Trans-actions	Other economic flows	Closing balance sheet	Opening balance sheet	Trans-actions	Other economic flows	Closing balance sheet
Revenue		1				5		
Capital transfer		(c) 1						
Sales of goods and services						(b) 5		
Expense		5				1		
Use of goods and services		(b) 5						
Capital transfer						(c) 1		
<i>Net worth / Net operating balance</i>	59	-4		55	216	4		220
Nonfinancial assets		(d) 20		20	20	(d) -20		0
<i>Net financial worth / Net lending (+) / net borrowing (-)</i>	59	-24		35	196	24		220
Financial assets	59	-24		35	215	5		220
Currency and deposits					215	(b) 5		220
Currency and deposits	40	(b) -5		35				
Other accounts receivable	19	(c) 1		20				
Other accounts receivable		(d) -20		-20				
Liabilities					19	-19		0
Other accounts payable					19	(c) 1		0
Other accounts payable						(d) -20		0
Gross debt	0	0		0	19	-19		0
Net debt	-59	24		-35	-196	-24		-220

Note:

- At the end of year 20, the private corporation's debt will be equal to 20, and then it will be extinguished through the transfer of the fixed asset at a residual value of 20 "(d)." At the end of year 20, therefore, the private corporation's gross debt is zero. Similarly, the government's accounts receivable is 20 and will be extinguished by the acquisition of the fixed asset "(d)."
- At the end of year 20, government owns a nonfinancial asset of 20 (the private corporation is no longer the owner of the asset).
- Over the entire period, government's net worth has decreased from 135 to 55 (i.e., by 80), reflecting capital transfers received of 20 and use of goods and services of 100. The private corporation's net worth has remained unchanged. This can be explained by the reduction in the value of the asset from 100 to 20 (i.e., by 80) which was offset by the revenue from the operating lease (100) and the capital transfer expense of 20.

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reference rates priced different from current market values (i.e., "off-market"). Such a swap results in a lump-sum being paid, usually at inception, by one party to the other. The economic nature of an off-market swap is a combination of borrowing (i.e., the lump-sum), in the form of a loan, and an on-market swap

(financial derivative). The loan component of an off-market swap is debt and, if a public sector unit receives the lump sum payment, this will be part of public sector debt. Examples of swaps contracts that may involve off-market reference rates include interest rate and currency swaps.

Box 4.16. Statistical Treatment of Debt and Flows Arising from PPPs (continued)

Example 2a: This example is the same as example 1, but here government acquires the asset by way of a capital transfer, at the end of year 20. Government and a private corporation agree in a long-term contract that the private corporation build a fixed asset for 100, operates it for a period of 20 years, and then hands the asset over to government at a residual value of 20. The private corporation is assessed as being the economic and legal owner during the contract period and the government obtains legal and economic ownership at the end of the contract without an explicit payment. Government pays the private corporation 5 per year for the use of the fixed asset. The private corporation finances the construction of the asset from existing cash balances. For simplicity, the example ignores consumption of fixed capital and assumes there are no other economic flows. These should be recorded in the usual manner.

In the **first year**, the following stock positions and flows are recorded in the statistics for government and the private corporation, respectively:

	General government				Private corporation			
	Opening balance sheet	Trans-actions	Other economic flows	Closing balance sheet	Opening balance sheet	Trans-actions	Other economic flows	Closing balance sheet
Revenue						5		
Sales of goods and services						5		
Expense		5						
Use of goods and services		5						
<i>Net worth / Net operating balance</i>	135	-5		130	220	5		225
Nonfinancial assets								
<i>Net financial worth / Net lending (+) / net borrowing (-)</i>	135	-5		130	220	5		225
Financial assets	135	-5		130	220	5		225
Currency and deposits	135	-5		130	220	5		225
Liabilities								
Gross debt	0	0		0	0	0		0
Net debt	-135	5		-130	-220	-5		-225

Note:

- For the operating lease government has an expense of 5 per year in cash (use of goods and services). The private corporation receives 5 per year in cash from the government (sales of goods and services).
- Unlike example 1, there is no gradual build-up of a financial claim or liability.
- Neither the government nor the private corporation incurs gross debt from these transactions.
- At the end of year 1, government's net worth decreases by 5 (as reflected in the cash payment of 5). The private corporation's net worth increases by 5, as reflected in revenue of 5.

Continues on the next page

b. Statistical treatment of off-market swaps

4.129 Because the economic nature of an off-market swap is equivalent to a combination of a loan and a financial derivative, two stock positions are recorded in the balance sheet (as shown in Box 4.17):

- a loan—a debt instrument—which is equal to the nonzero value of the swap at inception and with a maturity date equivalent to the expiration date of the swap; and
- a financial derivative (swap) component—a non-debt instrument—which is an on-market swap,

with a notional principal equivalent to the notional principal of the off-market swap (net of the loan), and which is zero at inception.

4.130 The loan position is a liability of the party that receives the lump sum, while the derivative position may appear either on the financial asset or liability side, depending on market prices on the balance sheet date.

4.131 Future streams of flows relating to these stock positions are also partitioned between those relating to the loan and financial derivative component, respectively.

Box 4.16. Statistical Treatment of Debt and Flows Arising from PPPs (continued)

Example 2b: This example is the same as example 1, but here government acquires the asset by way of a capital transfer, at the end of year 20. Government and a private corporation agree in a long-term contract that the private corporation build a fixed asset for 100, operates it for a period of 20 years, and then hands the asset over to government at a residual value of 20. The private corporation is assessed as being the economic and legal owner during the contract period and the government obtains legal and economic ownership at the end of the contract without an explicit payment. Government pays the private corporation 5 per year for the use of the fixed asset. The private corporation finances the construction of the asset from existing cash balances. For simplicity, the example ignores consumption of fixed capital and assumes there are no other economic flows. These should be recorded in the usual manner.

In year 20, the following stock positions and flows are recorded in the statistics for government and the private corporation, respectively:

	General government				Private corporation			
	Opening balance sheet	Trans-actions	Other economic flows	Closing balance sheet	Opening balance sheet	Trans-actions	Other economic flows	Closing balance sheet
Revenue		20				5		
Capital transfer		20						
Sales of goods and services						5		
Expense		5				20		
Use of goods and services		5						
Capital transfer						20		
<i>Net worth / Net operating balance</i>	40	15		55	235	-15		220
Nonfinancial assets		20		20	20	-20		0
<i>Net financial worth / Net lending (+) / net borrowing(-)</i>	40	-5		35	215	5		220
Financial assets	40	-5		35	215	5		220
Currency and deposits	40	-5		35	215	5		220
Liabilities								
Gross debt	0	0		0	0	0		0
Net debt	-40	5		-35	-215	-5		-220

Note:

- At the end of year 20, government acquires the nonfinancial asset for 20 (the private corporation is no longer the owner of the asset) and a capital transfer of 20 is recorded.
- Over the entire period, government's net worth has declined from 135 to 55 (i.e., by 80), reflecting capital transfers received of 20 and use of goods and services of 100. The private corporation's net worth has remained unchanged. This can be explained by the reduction in the value of the asset from 100 to 20 (i.e., by 80) which was offset by the revenue from the operating lease (100) and the capital transfer expense of 20.
- The results at the end of year 20 in this example are the same for both parties in this PPP when compared with the treatment in example 1. The difference is in the accrual of the capital transfer over the 20 years in example 1, instead of a capital transfer of 20 at the end of year 20.

11. Debt arising from unfunded public sector employer pension schemes

4.132 A pension fund for public sector employees can be managed on behalf of the public sector unit (for example, government) by a public or private insurance corporation or it can be organized and managed by the public sector unit as an autonomous or nonautonomous pension fund.

4.133 A nonautonomous pension fund is not a separate institutional unit and the assets of the fund belong to the employer. By its nature, an unfunded scheme is

not a separate institutional unit and must be organized and managed by the employer, which may be a general government unit or a public corporation. The employees, however, have a claim against the employer, and the employer has a liability equal to the present value of the future benefits payable. This liability forms part of debt and is classified under the debt instrument insurance, pension, and standardized guarantee schemes.

4.134 If a public sector unit, such as the budgetary central government, operates a unfunded pension

Box 4.17. Statistical Treatment of an Off-Market Swap

The following example illustrates the statistical treatment of an “off-market” swap for a public sector unit. It first describes an “on-market” swap in order to contrast this with an “off-market” swap.

On-market swap: Assume that a government debt management office issues a five-year floating rate bond (at par) with a face value of 100 domestic currency and with the coupon set at three-month domestic currency LIBOR. At this point, the market value of the bond is 100 domestic currency. At the same time, the government debt management office enters into a five-year currency swap, whereby a principal of 100 domestic currency is exchanged for foreign currency at the prevailing market exchange rate of 1 domestic currency unit = 1.25 foreign currency (i.e., the government debt management office receives a principal of 125 foreign currency), with the underlying cash flows linked to three-month domestic currency LIBOR and three-month foreign currency LIBOR, respectively. At this point, the market value of the debt is still 100 domestic currency. The cash flows for the first three-month period is set on both the domestic and foreign currency legs, respectively, on inception, and paid after three months, when the cash flows for the coming period are fixed. At the end of the swap, the principals are reversed, with the government debt office receiving back the principal of 100 domestic currency, which is then used to repay the underlying bond (of 100 domestic currency), while paying the principal of 125 foreign currency. The overall effect of this swap is to translate the characteristics of the original domestic currency floating rate bond into an equivalent foreign currency floating rate bond. This changes the nature of both the exchange rate and interest rate exposure of the government debt portfolio.

In macroeconomic statistics, the value of the financial derivative, at inception, is zero. Subsequently, the financial derivative position in the balance sheet may appear either on the financial asset or liability side, depending on value of the derivative on the balance sheet date.

Off-market swap: Assume the same as above, except that the exchange rate assumed on the exchange of principals is set at a rate of 1 domestic currency = 1 foreign currency. Under this scenario and using the prevailing market exchange rate of 1.25, the market value of the post-swap debt is 80 domestic currency (= 100 foreign currency) rather than 100 domestic currency, where $80 = (100 \times [1 \div 1.25])$. Assuming the swap is constructed in such a way that the cash flows are as they would be under the original swap—this means that the coupon flows on the foreign currency leg would need to be set to three-month foreign currency LIBOR scaled up by a factor of 1.25—then the value of the swap would be 20 domestic currency (= 25 foreign currency) on inception. The government debt office receives an actual cash payment of 25 foreign currency (= 20 domestic currency). From a macroeconomic statistics viewpoint, this cash payment represents a loan (liability) of the government debt office toward the swap counterparty. The value of the financial derivative component, at inception, is zero. Subsequently, the financial derivative position in the balance sheet may appear either on the financial asset or liability side, depending on value of the derivative (net of the loan) on the balance sheet date.

At inception, the following transactions and stock positions are recorded for general government:

	General government			
	Opening balance sheet	Transactions	Other economic flows	Closing balance sheet
Revenue				
Expense				
<i>Net worth / Net operating balance</i>	0	0		0
Nonfinancial assets	0	0		0
<i>Net financial worth / Net lending (+) / net borrowing (-)</i>	0	0		0
Financial assets	0	100		100
Currency and deposits: Domestic currency denominated	0	100-100		0
Currency and deposits: Foreign currency denominated	0	+80+20		100
Financial derivatives	0	0		0
Liabilities	0	100		100
Bond: Domestic currency denominated	0	100-100		0
Bond: Foreign currency denominated	0	+80		80
Loan from swap counterparty: Foreign currency denominated	0	+20		20
Financial derivative	0	0		0
Gross debt	0	100		100
Net debt	0	0		0

Note:

- Currency and deposits: increase by 100 (domestic currency) when the bond is issued and decrease by 100 because of the swap. Then, foreign currency denominated currency and deposits increase by 100, comprising the new value of the bond as a result of the swap (80) and the lump sum cash payment (20).
- Total gross debt remains the same (100 domestic currency) but its composition has changed from domestic currency denominated to foreign currency denominated. The market value of the bond is 80 after the swap and the loan liability is 20. Net debt is zero before and after the swap.
- The value of the financial derivative component (i.e., the “on-market” swap) is zero at inception.

Box 4.18. Statistical Treatment of Unfunded Nonautonomous Pension Schemes

The following example illustrates the statistical treatment of an unfunded nonautonomous retirement scheme of a public sector unit, such as government. Assume the opening balance sheet values as given. On December 31, actuarial calculations indicate that the present value of future benefits, based on existing circumstances, is 1,005. Benefits payable during the year are 45. Assume no other economic flows such as changes in the benefits.

The following stock positions and flows are recorded:

	General government			
	Opening balance sheet	Transactions	Other economic flows	Closing balance sheet
Revenue				
Expense		50		
Imputed social contributions		50		
<i>Net worth / Net operating balance</i>	-800	-50		-850
Nonfinancial assets	0			0
<i>Net financial worth / Net lending (+) / net borrowing (-)</i>	-800	-50		-850
Financial assets	200	-45		155
Currency and deposits	200	-45		155
Liabilities	1,000	5		1,005
Insurance, pension, and standardized guarantee schemes	1,000	50-45		1,005
Gross debt	1,000	5		1,005
Net debt	800	50		850

Note:

- Imputed contributions made by the employer on behalf of employees of 50 are calculated as the residual value of the closing balance sheet value (1,005) minus the opening balance sheet value (1,000) minus benefits payable (-45) minus other economic flows (0). There are no actual contributions made by the employees.
- Total gross debt increases from 1,000 to 1,005 as a result of the imputed social contributions payable (50) and the benefits payable (45). Net debt increase from 800 to 850 because of the reduction in currency and deposits (45) and the net increase of 5 in the liability for future retirement benefits.

scheme, then it will have the following transactions in debt liabilities for insurance, pension, and standardized guarantee schemes:

- Social contributions receivable in the current period from employees, employers, or other institutional units on behalf of individuals or households that have claims on the public sector unit for future retirement benefits will increase the public sector unit's debt liability. The existing liability will increase over time because the future payments are discounted over fewer periods. Debt liabilities in the form of insurance, pension, and standardized guarantee schemes will increase (credit), with the corresponding entry being an expense in the form of imputed social contributions (debit).
- Benefits paid in the current period to retired persons or their dependents and survivors in the form of periodic payments or lump sums reduce the debt liability (debit), with the corresponding entry being a decrease in currency and deposits (credit).

4.135 An example of the recording of stocks and flows related to unfunded public sector employer pension schemes is given in Box 4.18.

12. Debt arising from government's assumption of pension liabilities

4.136 On occasion, large one-off transactions may occur between a government and another public sector unit, usually a public corporation, linked to pension reforms or to privatizations of public corporations. The goal may be to make a public corporation competitive and financially more attractive by removing existing pension liabilities from the balance sheet of the public corporation. This goal is achieved by government assuming the liability in question in exchange for a cash payment of the same value from the public corporation. If the cash payment is not equal in value to the liability incurred, a capital transfer from government to the public corporation is recorded for the difference.

4.137 The assumer (government) records an increase in debt liabilities for pensions (credit), an

increase in financial assets in the form of currency and deposits (debit), and an expense in the form of capital transfer to the public corporation (debit). The public corporation records a decrease in debt liabilities for pensions (debit), a decrease in financial assets in the form of currency and deposits (credit), and revenue in the form of capital transfer from government (debit).

4.138 Gross debt of the government increases by the value of the pension liability assumed, and net debt increases equal to the value of the capital transfer. Net worth and net financial worth decrease by the value of the capital transfer. Gross debt of the public corporation decreases by the value of the pension liability assumed, and net debt decreases equal to the value of the capital transfer. Net worth and net financial worth increase by the value of the capital transfer.

13. On-lending of borrowed funds

a. Definition

4.139 *On-lending of borrowed funds refers to a resident institutional unit, A (usually central government), borrowing from another institutional unit(s), B (usually a nonresident unit), and then on-lending the proceeds from this borrowing to a third institutional unit(s), C (usually state or local governments, or a public corporation[s]), where it is understood that unit A obtains an effective financial claim on unit C.* On-lending of borrowed funds are motivated by several factors. For example:

- Institutional unit A may be able to borrow from unit B at more favorable terms than unit C could borrow from unit B; or
- Institutional unit C’s borrowing powers are limited by factors such as foreign exchange regulations; only unit A can borrow from nonresidents.

4.140 On-lending results in (at least) two separate financial claims. These claims should not be offset against each other in government finance and public sector debt statistics; institutional unit A has a debt liability to unit(s) B, and unit(s) C has a debt liability to unit A, which may be consolidated (see paragraph 4.145). Depending on the residence of institutional unit(s) B and C, respectively, these debt liabilities (and the corresponding financial claims) are classified as domestic or external.

b. Statistical treatment of on-lending of borrowed funds

4.141 If the resident institutional unit (A), which on-lends the borrowed funds to unit(s) C, obtains an effective financial claim on unit(s) C, the statistical treatment of on-lending of borrowed funds depends on the residence of the creditor(s) from which unit A is borrowing (i.e., unit[s] B), as well as the residence of unit(s) C to which unit A is on-lending the borrowed funds, as summarized in Table 4.2.

4.142 The classification of the debt liability of institutional unit A to unit(s) B depends on the type of instrument(s) involved: typically, such borrowing is in the form of loans and/or debt securities. In such cases, institutional unit A’s debt liabilities in the form of loans and/or debt securities increase (credit) as a result of the borrowing from unit(s) B, with a corresponding increase (debit) in unit A’s financial assets in the form of currency and deposits. These events result in an increase in the gross debt position of unit A, but no change in its net debt position.

4.143 The debt liability of institutional unit(s) C to unit A, as a result of the on-lending of the borrowed funds, is typically in the form of a loan. In other words, institutional unit C’s debt liabilities increase (credit) as a result of the borrowing from unit A, with a corresponding increase (debit) in unit C’s financial assets in the form of currency and deposits. These events result in an increase in the gross debt position of unit C, but no change in its net debt position.

4.144 Institutional unit A’s financial assets (for example, loans) will increase (debit) as a result of the on-lending to unit C and its financial assets in the form of currency and deposits will decrease (credit). For

Table 4.2. Summary of the Statistical Treatment of On-lending of Borrowed Funds by Institutional Unit A

1. Unit A borrows from unit(s) B	Depending on the residence of institutional unit(s) B, unit A has a domestic/external debt liability to unit(s) B. (Institutional unit[s] B has a domestic/external financial claim on unit A.)
2. Unit A on-lends to unit(s) C	Depending on the residence of institutional unit(s) C, unit A has a domestic/external financial claim on unit(s) C. (Unit[s] C has a domestic/external liability to unit A.)

Box 4.19. Statistical Treatment of On-Lending of Borrowed Funds

The following example illustrates the statistical treatment of on-lending of borrowed funds. General government unit (A) borrows 100 from a foreign government (B), and on-lends these funds to a resident public corporation (C). The external loan is repaid over five years and interest is payable annually at a rate of 5 percent. Every year, the public corporation provides the funds (23.1) for the amortization of the external loan. For simplicity, it is assumed that there are no other economic flows (for example, exchange rate changes). The following stock positions and flows are recorded for general government and the public corporation in year 1.

	General government				Public corporation			
	Opening balance sheet	Trans-actions	Other economic flows	Closing balance sheet	Opening balance sheet	Trans-actions	Other economic flows	Closing balance sheet
Revenue		5						
Interest on loan to public corporation		(c) 5						
Expense		5				5		
Interest on external loan Interest on loan from government		(d) 5			(c) 5			
<i>Net worth / Net operating balance</i>		0		0		-5		-5
Nonfinancial assets								
<i>Net financial worth / Net lending (+) / net borrowing (-)</i>		0		0		-5		-5
Financial assets		81.9		81.9		76.9		76.9
Currency and deposits		(a) 100		0	(b) 100			76.9
Currency and deposits		(b) -100						
Currency and deposits		(e) 23.1			(e) -23.1			
Currency and deposits		(f) -23.1						
Loan to public corporation		(b) 100		81.9				
Loan to public corporation (accrued interest)		(c) 5						
Loan to public corporation (repayment)		(e) -23.1						
Liabilities		81.9		81.9		81.9		81.9
External loan		(a) 100		81.9				
External loan (accrued interest)		(d) 5						
External loan (repayment)		(f) -23.1						
Loan from government					(b) 100			81.9
Loan from government (accrued interest)					(c) 5			
Loan from government (repayment)					(e) -23.1			
Gross debt		81.9		81.9		81.9		81.9
Net debt		0		0		5		5

Note:

- Government's financial assets: currency and deposits increase by 100 (a) as a result of the 100 increase in external debt liabilities (a).
- Government's financial assets: currency and deposits decrease by 100 (b) as a result of the (domestic) loan extended to the public corporation (b). The public corporation's financial assets: currency and deposits increase by 100 (b) as a result of the increase in the public corporation's debt liabilities to general government (b).
- Interest of 5 (c) accrues on the domestic loan from government to the public corporation, and on the external loan that government obtained from the foreign government (d).
- The public corporation makes an annual payment of 23.10 to repay the domestic loan it obtained from general government. As a result, the public corporation's debt liability to general government decreases by 23.1 (e) and its financial assets: currency and deposits decrease by 23.1. General government's claim on the public corporation decreases by 23.1 (e) and its currency and deposits increase by 23.1 (e).
- General government makes an annual payment of 23.10 to repay the external loan it obtained from the foreign government. As a result, government's debt liability to the foreign government decreases by 23.1 (f) and its financial assets: currency and deposits decrease by 23.1 (f).
- Gross (external) debt liabilities of general government are 81.9 at the end of year 1 but its net debt does not change as a result of the borrowing and on-lending of the borrowed funds. Gross (domestic) debt liabilities of the public corporation is 81.9 at the end of year 1, and its net debt is 5 (81.9-76.9).

institutional unit A, these events have no effect on its gross and net debt positions.

4.145 If institutional unit(s) C is classified to the same sector, subsector, or group of units as unit A, this debt liability (and corresponding financial claim) is eliminated in consolidation, as explained in Chapter 8.

4.146 The amortization of each of the debt liabilities (and corresponding financial assets) is recorded in the books of the unit in which balance sheet the debt liability appears. Thus, if institutional unit A has a debt liability to unit B, the amortization of this (usually external) liability (debit) is recorded in the books of unit A, even if these borrowed funds were on-lent to unit C. The amortization of institutional unit A's debt liability to unit B improves unit A's gross debt position while its net debt position remains the same.

4.147 Similarly, the amortization of institutional unit C's (usually domestic) debt liability (debit) to unit A is recorded in the books of unit C. Unit A would record a decrease (credit) in its (domestic) financial claims on unit C. The amortization of institutional unit C's debt liability to unit A improves unit C's gross debt position, while its net debt position remains the same. Institutional unit A's gross and net debt positions are unaffected by the extinction of the financial claim it has on unit C, because it exchanges a financial asset in the form of a loan for currency and deposits.

4.148 Box 4.19 provides an example of the statistical treatment of the on-lending of borrowed funds, and their subsequent amortization.

14. Stock positions and related flows with the IMF

4.149 This section briefly describes the stock positions and flows in financial assets and liabilities of member countries with the IMF as they relate to public sector debt statistics. Debt data compilers first have to determine in which public sector unit(s) to record the stock positions and related flows with the IMF. Stock positions and flows in financial assets and liabilities of member countries with the IMF are usually recorded in the accounts of the public sector unit determined by the legal and institutional arrangements in the member country.

4.150 The IMF conducts its dealings with a member through the fiscal agency and the depository:

- Each member country designates a fiscal agency to conduct financial transactions with the IMF on behalf of the member.⁵²
- Each member is also required to designate its central bank as a depository for the IMF's holdings of the member's currency.⁵³ In most member countries, the central bank is the fiscal agency and the depository.

4.151 The next sections discuss member countries' quotas in the IMF, their reserve positions in the IMF, remuneration (interest) receivable from the IMF, the account that is used for administrative payments (the "No. 2 Account"), and their SDR allocations and holdings.

a. Quotas

4.152 Member countries are assigned a quota on joining the IMF. A quota is the capital subscription, expressed in SDRs, that each member must pay the IMF on joining and consists of two components:

- **Foreign exchange component.** A member is required to pay 25 percent of its quota in SDRs or in foreign currencies acceptable to the IMF. This 25 percent portion is a component of the member's reserve assets and is known as the "reserve tranche." In the public sector unit's accounts, subscribing this portion is shown as a transaction involving an increase in external financial assets in the form of currency and deposits (i.e., the reserve tranche position), which is a claim on the IMF (debit), offset by an equal reduction in existing external financial assets⁵⁴ (credit).
- **Domestic currency component.** The remaining 75 percent of the quota is payable in the member's own currency at the designated depository. The payment is made either in domestic currency (IMF No. 1 and No. 2 Accounts) or by issuance of a promissory note (and recorded in the IMF Securities Account). The No. 1 Account is used for the IMF's operational transactions (for example, purchases and repurchases), and small transfers may be made from this account to the No. 2 Account, which is used for the payment of local administrative expenses incurred

⁵²The fiscal agency may be the member's treasury (ministry of finance), central bank, official monetary agency, stabilization fund, or other similar agency. The IMF can only deal with, or through, the designated fiscal agency.

⁵³If the member has no central bank, a monetary agency or a commercial bank acceptable to the IMF can be designated as the depository.

⁵⁴The type of instrument varies.

by the IMF in the member's currency. The promissory notes are encashable by the IMF on demand. The domestic portion of the quota payment is not recorded in the public sector unit's accounts, except for the No. 2 Account (see below). No interest is payable on either the deposit account or the note.

4.153 There are periodic reviews of the size of member quotas. Recording transactions that reflect a change in a member's quota is the same as the recording that takes place when the quota is initially paid.

b. Reserve position in the IMF

4.154 A member country's reserve position in the IMF equals the sum of the reserve tranche plus any indebtedness of the IMF (under a loan or note purchase agreement) in the General Resources Account that is readily available to the member country (for further details, see paragraph 6.85 of *BMP6*). The reserve tranche represents the member's unconditional drawing right on the IMF, created by the foreign exchange portion of the quota subscription, plus increases (decreases) through the IMF's sale (repurchase) of the member's currency to meet the demand for use of IMF resources by other members in need of balance of payments financing. A member's reserve position in the IMF constitutes part of its reserve assets (external financial assets).

4.155 To utilize its reserve tranche in the IMF, a member must present a declaration of a balance of payments need and purchase foreign exchange from the IMF with its own currency. The domestic currency, equal to the value of the foreign exchange, is paid into the IMF's No. 1 Account with the member's central bank or through the issuance to the IMF of a promissory note recorded in the IMF's Securities Account. The transaction is recorded in the public sector unit's accounts as a reduction in the member's external financial assets in the form of currency and deposits (i.e., the reserve tranche position in the IMF), which is offset by an increase in the member's external financial assets (the type of instrument varies).

c. Credit and loans from the IMF

4.156 A member may make use of IMF credit or concessional loans under the trusts administered by the IMF (for financing for low-income countries) to acquire additional foreign exchange from the IMF. The use of IMF credit and loans results in the same outcome—that

is, the member entering into these agreements has access to foreign exchange in return for agreeing to meet a set of conditions. Both IMF credit and concessional loans are classified in the public sector unit's accounts as external liabilities in the form of loans, although the two types of arrangements are executed in different ways:

- These concessional loans result in the member borrowing foreign exchange with a commitment to repay. Such loans do not affect the IMF No. 1 Account.
- When a member country uses IMF credit, it “purchases” foreign exchange from the IMF in return for its domestic currency. Use of IMF credit is shown as the member's loan liability (denominated in SDRs) in the accounts of the public sector unit, reflecting the economic nature of the transaction. Liabilities under IMF credit arrangements are extinguished when the member uses foreign exchange to “repurchase” its domestic currency.

4.157 For use of IMF credit, if the value of the member's domestic currency changes in relation to the SDR, “maintenance of value payments” are made once a year in the No. 1, No. 2, and Securities Accounts in domestic currency to maintain a constant SDR liability. Because the liability is denominated in SDRs, the maintenance of value payments are not entered as transactions in the central bank's accounts, but as holding gains/losses (revaluations) when the domestic currency is used as the unit of account.

4.158 When the central bank passes on proceeds from IMF borrowing to a general government unit:

- The central bank has a domestic financial claim (loan) on the general government unit and the general government unit has a domestic debt liability to repay (principal and interest).
- The central bank has an external debt liability to repay, and may use the debt-service payments received from the general government unit to do so.

d. Remuneration

4.159 The IMF pays its members “remuneration” quarterly (in SDRs) on the basis of their reserve tranche position, except for a small portion related to prior quota payments in gold that are interest-free resources to the IMF. This remuneration should be classified on an accrual basis as interest income (revenue) of the public

sector unit, which is offset by an increase in its external financial assets in the form of currency and deposits.

e. IMF No. 2 Account

4.160 As discussed previously, the IMF No. 2 Account is used by the IMF for administrative payments and is reflected as a liability in the public sector unit's accounts. Transactions involving the No. 2 Account are recorded as increases or decreases in this liability and are offset by the source of funds (in the case of an increase) or the use of funds (in the case of a decrease). When the IMF transfers funds from the No. 1 Account to the No. 2 Account, the public sector unit's accounts will show an increase in its reserve tranche (i.e., currency and deposits). The increase reflects the reduction in IMF holdings of the member's currency in the No. 1 Account and is offset by an increase in the member's liabilities relating to currency and deposits.

f. Special drawing rights (SDRs)

4.161 The SDR is an international reserve asset created by the IMF in 1969. The SDR is administered by the IMF's SDR Department, which is required by the IMF's Articles of Agreement to keep its accounts strictly separate from the General Department. Members participating in the SDR Department incur the financial asset or liability position unto itself. Given that financial claims on and liabilities to members in the SDR system are attributed on a cooperative basis, a residual partner category—other nonresidents—is used as the counterparty to SDR holdings and allocations.⁵⁵

4.162 SDR allocations received by a country are recorded as transactions in liabilities in the form of SDRs (part of gross debt of the public sector unit) with a corresponding entry for SDR holdings as a financial asset. The calculation of a public sector unit's net debt takes into account SDR holdings and SDR allocations. Interest income on SDR holdings (revenue) and interest expense on SDR allocations are accrued on a gross basis to the outstanding financial asset and liability, respectively.

⁵⁵See Chapter 3 for a discussion of the classification of the counterparty by institutional sector.

4.163 The SDR allocation is debt of the recipient (i.e., the participant in the SDR Department), and forms part of public sector debt. The SDR holdings are part of the public sector's financial assets. However, the international statistical systems do not specify on which balance sheet SDR holdings and allocations should be recorded (for example, the central bank or a general government entity such as the ministry of finance or treasury). This is because SDR allocations are made to IMF members that are participants in the SDR Department of the IMF, and it is for those members to follow domestic legal and institutional arrangements to determine the ownership and recording of SDR allocations and SDR holdings in the public sector.

4.164 For GFS and public sector debt statistics it is particularly relevant in which public sector unit's accounts the SDR holdings and allocations are recorded. If the SDR allocation is recorded on the government's balance sheet, the allocation is part of general government debt. If the SDR allocation is on the central bank's balance sheet, the allocation is not part of general government debt but still part of public sector debt.

4.165 SDRs are held exclusively by participants and prescribed holders,⁵⁶ and are transferable among them. At the time of the SDR allocation, the amounts recorded as SDR allocations (liabilities) and holdings (financial assets) are identical and on the same public sector unit's balance sheet. This public sector unit—as official holder—may, subsequently, exchange some or all of its SDR holdings (financial asset) with other official holders for a freely usable currency(ies). In this case, the SDR allocations and holdings on the balance sheet of the public sector unit are no longer identical; the SDR holdings are less than the allocations because they have been converted into freely usable currencies (i.e., currency and deposits). As a result, interest payable on the SDR allocation of public sector unit will be larger than interest receivable on its SDR holdings. Interest receivable on the SDR holdings exchanged will accrue to the new holder.

⁵⁶The IMF considers members participating in the SDR Department to be holders of SDRs but members may adopt domestic arrangements with respect to the agencies (for example, central banks, ministries of finance, treasury departments) that will hold the SDRs and carry the corresponding SDR allocations as liabilities. The IMF has also prescribed a limited number of international financial institutions as holders of SDRs.

Presentation of Public Sector Debt Statistics

This chapter describes two summary tables, five detailed tables, and six memorandum tables recommended for the presentation of a comprehensive set of public sector debt statistics.

A. Introduction

5.1 This chapter provides guidance on the presentation of public sector debt statistics and other information related to these statistics (metadata). Data compiled according to the definitions and guidelines provided in the previous chapters and presented in the format of these tables provide a comprehensive picture of the gross and net debt positions of the public sector, or any of its subsectors. The IMF's Special Data Dissemination Standard (SDDS) and General Data Dissemination System (GDDS) provide further guidance on good practices for the timeliness and periodicity of public sector debt statistics being disseminated.^{1,2}

5.2 The dissemination of public sector debt statistics should be accompanied with methodological notes (metadata) explaining the concepts and methods used in compiling the data, and explaining deviations from concepts and methods used in this *Guide*. In particular, every presentation table should indicate the institutional coverage of the debt statistics (for example, general government sector or nonfinancial public sector). Debt statistics for the specified institutional coverage should be consolidated appropriately (i.e., eliminating debt stock positions between the entities for which the statistics are presented). Consolidation is discussed in Chapter 8.

5.3 In the presentation tables of this chapter, debt statistics are recorded at nominal and market value,

as described in Chapter 2, paragraphs 2.115–2.138.³ **“Gross debt at market value” means that debt securities are valued at market prices; insurance, pension, and standardized guarantee schemes are valued according to principles that are equivalent to market valuation; and all other debt instruments are valued at nominal prices, which are considered to be the best generally available proxies of their market prices.** Deviations from these valuation principles should always be specified in the presentation tables.

5.4 The presentation tables in this chapter are considered to be the core set of information on public sector debt that should be disseminated by countries. These core tables may be supplemented with additional tables on aspects of public sector debt statistics not covered in the core set according to national circumstances; some examples of supplementary information are provided at the end of this chapter.

B. Presentation Tables

5.5 This *Guide* recommends presenting two summary tables on public sector debt statistics, five detailed tables, and six memorandum tables. The summary tables are:

- Gross debt at nominal and market value (see Table 5.1); and
- Gross and net debt at nominal and market value (see Table 5.2).

5.6 The detailed tables present additional information to what is shown in the summary tables, at nominal and market value:

¹See <http://www.dsb.org> for details on the SDDS and GDDS.

²The presentation of Maastricht debt of the European Union, (which is summarized in the annex to this chapter) differs from those in this chapter, but can be reconciled.

³Note that in some countries, nominal value is used in another sense, which is called “face value” in this *Guide*.

Table 5.1. Summary of Gross Debt
[specify institutional coverage]

	With debt securities at nominal value	With debt securities at market value
Total gross debt		
Gross debt by type of debt instrument Special drawing rights (SDRs) Currency and deposits Debt securities Loans Insurance, pension, and standardized guarantee schemes Other accounts payable		
Gross debt by original maturity Short-term, original maturity Long-term, original maturity Gross debt by remaining maturity Short-term, remaining maturity Long-term, remaining maturity		
Gross debt by currency of denomination Domestic currency denominated Foreign currency denominated		
Gross debt by type of interest rate Fixed-rate instruments Variable-rate instruments		
Gross debt by residence of the creditor Domestic creditors External creditors		
Memorandum items Publicly guaranteed debt Arrears		

Note: Specify where valuation or classification differs from the principles described in Chapters 2 and 3 of this Guide.

- Gross debt by maturity and type of debt instrument (see Table 5.3);
- Gross debt by currency of denomination and maturity (see Table 5.4);
- Gross debt by type of interest rate and currency of denomination (see Table 5.5);
- Gross debt by residence of the creditor and by:
 - type of debt instrument (see Table 5.6a);

- type of institutional sector of the creditor (see Table 5.6b); and
- currency of denomination (see Table 5.6c); and
- The debt-service payment schedules of gross outstanding debt (see Table 5.7).

5.7 The memorandum tables present details of:

- Publicly guaranteed debt by maturity and type of debt instrument, at nominal value (see Table 5.8);
- Arrears by type of arrears and type of debt instrument (see Table 5.9);
- A reconciliation of the market and nominal value of debt securities by residence and type of institutional sector of the creditor (Table 5.10);
- The financial derivatives position at market and notional value (see Table 5.11);
- Total explicit contingent liabilities and net obligations for future social security benefits (see Table 5.12); and
- Average interest rates by original maturity and type of debt instrument (see Table 5.13).

5.8 Except for Table 5.7, the debt statistics in Tables 5.1–5.12 are normally presented in time series format, where each observation refers to the stock position as on a specific date. In addition to the values, these statistics may also be presented as percentages of gross domestic product (GDP). The institutional coverage of the debt statistics in Tables 5.1–5.13 depends on data availability and analytical needs. Compilers may choose to compile:

- Each of these tables, separately, for each of the subsectors of the public sector for which data are available, or
- Each of these tables showing all, or some, of the subsectors of the public sector in separate columns.

5.9 It is recognized that countries may not have the information available to compile the presentation tables for all the subsectors of the public sector. These tables should be compiled on a best-effort basis and according to country circumstances.⁴ However, the complete set

⁴As explained in paragraph 5.2, metadata should explain deviations from concepts and methods used in this *Guide* to avoid misinterpretation. Also, each category of debt instrument should be identified separately, as shown in the presentation tables in this chapter. This would allow users of the statistics to identify the composition, for example, whether data for insurance, pension, and standardized guarantee schemes, if applicable, have been developed or not.

Table 5.2. Summary of Gross and Net Debt [*specify institutional coverage*]

	With debt securities at nominal value			With debt securities at market value		
	Gross debt (liabilities in the form of debt instruments) (a)	Financial assets corresponding to debt instruments (b)	Net debt (c) = (a)–(b)	Gross debt (liabilities in the form of debt instruments) (a)	Financial assets corresponding to debt instruments (b)	Net debt (c) = (a)–(b)
Total						
By type of debt instrument						
Monetary gold	—			—		
Special drawing rights (SDRs)						
Currency and deposits						
Debt securities						
Loans						
Insurance, pension, and standardized guarantee schemes						
Other accounts payable / receivable						
By original maturity						
Short-term, original maturity						
Long-term, original maturity						
By remaining maturity						
Short-term, remaining maturity						
Long-term, remaining maturity						
By currency of denomination						
Domestic currency denominated						
Foreign currency denominated						
By interest rate						
Fixed-rate instruments						
Variable-rate instruments						
By residence of the creditor						
Domestic creditors						
External creditors						

Note: Specify where valuation or classification differs from the principles described in Chapters 2 and 3 of this *Guide*. Monetary gold only exists as a financial asset.

of presentation tables recommended in this chapter is desirable and may, for example, guide plans for improving the quality and dissemination of public sector debt statistics. More detailed classifications than shown in these tables may be required for specific purposes. This may be accomplished by adding details to the subcategories or memorandum items in these tables, or to compile and disseminate additional tables, such as the examples given later in this chapter.

1. Summary presentation tables

a. Summary of gross debt

5.10 The first summary presentation table (see Table 5.1) shows consolidated gross debt at nominal and market value, for a specified institutional coverage.

5.11 First, this summary table presents total gross debt **by type of debt instrument**. These instruments are described in Chapter 3 of this *Guide*. Then follows a summary of gross debt according to four types of classifications: **maturity, currency of denomination, type of interest rate, and residence of the creditor**. Details of each of the four types of classifications of gross debt, at nominal and market value, are given in the detailed debt presentation tables (see Tables 5.3–5.7). In addition, this table presents information on two memorandum items: publicly guaranteed debt and arrears.⁵ These two memorandum items are presented at nominal value (see paragraphs 5.36–5.46). Details

⁵Valuation of contingent liabilities and arrears should follow the same principles applying to the underlying instruments.

of publicly guaranteed debt and arrears are given in Tables 5.8 and 5.9, respectively.

b. Summary of gross and net debt

5.12 The second summary presentation (see Table 5.2) shows the consolidated **gross and net debt positions** at nominal and market value, for a specified institutional coverage. Net debt positions of public sector units receive added attention both in fiscal and financial market analysis, especially when ratios of gross debt to GDP are high or a large part of financial assets are set aside (implicitly or explicitly) to meet future liabilities.⁶ Indeed, for risk management purposes, a public sector unit may manage its debt liabilities and its stock of monetary gold and financial assets corresponding to the debt instruments in an integrated manner.⁷

5.13 The rows in this presentation are the same as those in Table 5.1 (except for the memorandum items). The columns present the gross debt position (which corresponds exactly to the items in Table 5.1), stock positions in the financial assets corresponding to the debt instruments, and the net debt position at nominal and market value.

5.14 *Net debt is calculated as gross debt minus the financial assets corresponding to debt instruments.* For some purposes, it may be useful to net individual debt instruments against their corresponding financial assets. For other purposes, it may be useful to calculate debt net of highly liquid assets.⁸ However, in most cases, a one-on-one netting of a debt instrument against its corresponding financial asset may not be analytically useful because typically specific types of assets are not earmarked to repay specific types of liabilities. As explained in Chapter 2, monetary gold includes elements of a debt instrument (unallocated gold accounts) and a nondebt instrument (gold bullion). In principle, the gold bullion element of monetary gold should be excluded from the calculation of net debt. However, in practice, the total amount for monetary gold may have to be used in the net debt calculation because compilers of public sector debt statistics may not be able to exclude the gold

⁶Analysts may also consider wider measures of a public sector unit's financial position, such as its net financial worth (total financial assets minus total liabilities), or total net worth (total assets minus total liabilities).

⁷An even more complete analysis would use the entire balance sheet, as in the *GFS* system.

⁸*Debt net of highly liquid assets is, in most cases, equal to gross debt minus financial assets in the form of currency and deposits. However, in some cases, debt securities held for debt management purposes could be included as highly liquid financial assets.*

bullion element. By convention, the nominal value of nominal gold bullion is its market value.

2. Detailed presentation tables

a. Details of gross debt by maturity and type of debt instrument

5.15 The second part of the summary presentation of gross debt (Table 5.1) shows consolidated gross debt by maturity. Table 5.3 presents further details, showing consolidated gross debt, at nominal and market value and for a specified institutional coverage, **by maturity and type of debt instrument**. As explained in Chapter 2, this *Guide* recommends a maturity breakdown that allows for compiling statistics on both original and remaining maturity⁹ bases:

- Short-term debt on a remaining maturity basis is equal to short-term debt on an original maturity basis plus long-term debt on an original maturity basis with payment due in one year or less.
- Long-term debt on an original maturity basis is equal to long-term debt on an original maturity basis with payment due in one year or less plus long-term debt on an original maturity basis with payment due in more than one year.
- Other aggregates on original or remaining maturity bases can be derived directly from Table 5.3.

5.16 Statistics on a remaining maturity basis are of particular analytical interest. Such information permits an assessment of liquidity risk by indicating when public sector debt payments will fall due. Information on payments becoming due in the short- to near-term is particularly relevant for this analysis. Statistics on a remaining maturity basis are also used for debt management purposes. Statistics on an original maturity basis provide an indication of the borrower's credit-worthiness and the type of markets in which it is borrowing.

5.17 The second level of aggregation in Table 5.3 is by type of debt instrument. These instruments are described in Chapter 3 of this *Guide*.

b. Details of gross debt by currency of denomination and maturity

5.18 The third part of the summary presentation of gross debt (Table 5.1) shows consolidated gross debt

⁹Remaining maturity is also referred to as residual maturity.

Table 5.3. Gross Debt by Maturity and Type of Debt Instrument [*specify institutional coverage*]

	With debt securities at nominal value	With debt securities at market value
Total gross debt		
By type of debt instrument Special drawing rights (SDRs) Currency and deposits Debt securities Loans Insurance, pension, and standardized guarantee schemes Other accounts payable		
Short-term, by original maturity Currency and deposits Debt securities Loans Insurance, pension, and standardized guarantee schemes Other accounts payable		
Long-term, by original maturity With payment due in one year or less Special drawing rights (SDRs) Currency and deposits Debt securities Loans Insurance, pension, and standardized guarantee schemes Other accounts payable With payment due in more than one year Special drawing rights (SDRs) Currency and deposits Debt securities Loans Insurance, pension, and standardized guarantee schemes Other accounts payable		

Note: Specify where valuation or classification differs from the principles described in Chapters 2 and 3 of this Guide.

by currency of denomination. Table 5.4 presents further details, showing consolidated gross debt, at nominal and market value and for a specified institutional coverage, **by currency of denomination and maturity**. As explained in Chapter 2, the currency of denomination is determined by the currency in which the value of debt positions and related flows is fixed, as specified in the contract between the parties.¹⁰ The currency of denomination is relevant for distinguishing transaction values and revaluations (i.e., holding gains and losses) relating to debt. It allows for a more differentiated analysis of the effects of exchange rate fluctuations on the debt position.

5.19 At the first level of aggregation, this table distinguishes between debt instruments denominated in domestic currency and debt instruments denominated in foreign currency. The second level of aggregation

¹⁰The currency of settlement may be different from the currency of denomination and it may be appropriate to specify the currency of settlement as a separate subcategory, if significant. This would be an example of adapting the classifications according to users' needs, as explained in paragraph 5.9.

in Table 5.4 is by maturity (see paragraph 5.15). In some cases, it may be useful to provide a further breakdown of foreign currency denominated debt according to major currencies.

c. Details of gross debt by type of interest rate and currency of denomination

5.20 The third part of the summary presentation of gross debt (Table 5.1) shows consolidated gross debt by type of interest rate. Table 5.5 presents further details, showing consolidated gross debt, at nominal and market value and for a specified institutional coverage, **by type of interest rate and currency of denomination**. This breakdown may be useful for some analysis, in that variable-rate instruments are subject to fluctuation in income flows in response to changes in market conditions, while fixed-rate securities are subject to changes in market prices.

5.21 At the first level of aggregation, this table distinguishes between **fixed** and **variable interest rate**

Table 5.4. Gross Debt by Currency of Denomination and Maturity
[specify institutional coverage]

	With debt securities at nominal value	With debt securities at market value
Total gross debt		
Domestic currency dominated		
Short-term, by original maturity		
Long-term, by original maturity		
With payment due in one year or less		
With payment due in more than one year		
Foreign currency dominated		
Short-term, by original maturity		
Long-term, by original maturity		
With payment due in one year or less		
With payment due in more than one year		

Note: Specify where valuation or classification differs from the principles described in Chapters 2 and 3 of this Guide.

debt instruments. Variable-rate debt instruments are those on which interest are linked to a reference index, for example, LIBOR (London interbank offered rate), a price index, the price of a specific commodity, or the price of a specific financial instrument that normally changes over time in a continuous manner in response to market conditions.¹¹ All other debt instruments should be classified as fixed-rate.

5.22 Interest on debt that is linked to the credit rating of another borrower should be classified as fixed-rate, because credit ratings do not change in a continuous manner in response to market conditions. Interest on debt that is linked to a reference price index should be classified as variable-rate, provided that the price(s) that are the basis for the reference index are primarily market determined.

5.23 The classification of an instrument can change over time. For example, the interest rate may be fixed for a certain number of years and then become variable. While a fixed rate is payable, the instrument is to

¹¹An interest rate that is adjusted, but only at intervals of more than a year, is considered to be fixed.

Table 5.5. Gross Debt by Type of Interest Rate and Currency of Denomination
[specify institutional coverage]

	With debt securities at nominal value	With debt securities at market value
Total gross debt		
Fixed-rate instruments		
Domestic currency dominated		
Foreign currency dominated		
Variable-rate instruments		
Domestic currency dominated		
Foreign currency dominated		

Note: Specify where valuation or classification differs from the principles described in Chapters 2 and 3 of this Guide.

be classified as fixed-rate debt, and when it switches to a variable rate it is classified as variable-rate debt. If interest is linked to a reference index, commodity price, or financial instrument price but is fixed unless the reference index or price passes a particular threshold, it should be regarded as fixed-rate. But if thereafter interest becomes variable, then it should be reclassified as a variable-rate instrument. Alternatively, if interest is variable-rate until it reaches a predetermined ceiling or floor, the instrument becomes fixed-rate debt when that ceiling or floor is reached. If the income stream of a variable-rate instrument is swapped with the income stream of a fixed-rate instrument, the swap is recorded as giving rise to a financial derivative, while the classification of the original debt instruments is unchanged.

5.24 Index-linked instruments are classified as being variable-rate. For these instruments, the principal or coupons or both are indexed to some variable, for example, to a general or specific price index. Because index-linked instruments have variable aspects, an instrument is classified as variable-rate if the indexation applies to the principal or coupons, or both (notwithstanding the treatment of interest discussed in the annex to Chapter 2). If particular kinds of index-linked securities are significant (for example, inflation-linked securities), such data may be added as a memorandum item to Table 5.5.

5.25 Insurance, pension, and standardized guarantee schemes are normally expected to be classified as variable rate. This is based on the fact that the rates that apply to these debt instruments are not fixed in advance

between the parties: insurance reserves and defined contribution pension liabilities are based on the return on funds invested, whereas defined-benefit pension liabilities and provisions for calls under standardized guarantee schemes are based on the discount rate used to calculate promised benefits or expected calls.

5.26 The second level of aggregation in Table 5.5 is by currency of denomination, which is described in Chapter 2 of this *Guide* (see also paragraph 5.18).

d. Details of gross debt by residence of the creditor

5.27 The fourth part of the summary presentation of gross debt (Table 5.1) shows consolidated gross debt by residence of the creditor. The classification of consolidated gross debt, at nominal and market value and for a specified institutional coverage, **by residence of the creditor**¹² allows for three classifications at the second level of aggregation, as shown in Tables 5.6a, 5.6b, and 5.6c. The second level of aggregation in Table 5.6a is by **type of debt instrument**, in Table 5.6b by **type of institutional sector of the creditor** (counterparty), and in Table 5.6c by **currency of denomination**. Debt instruments and institutional sectors of the creditors are described in Chapter 3 of this *Guide*, while Chapter 7 provides practical guidelines for classifying traded debt securities by residence and the type of institutional sector of the creditor. Currency of denomination is described in Chapter 2 of this *Guide*.

e. Debt-service payment schedules of gross outstanding debt

5.28 Like the classification of gross debt by remaining maturity, a debt-service payments schedule supports the assessment of liquidity risk of a public sector unit. It also allows for the assessment of risks related to rollover of the public sector unit's debt. For public sector debt managers, the monitoring of the debt-service payment schedule for public sector and publicly guaranteed debt is an essential aspect of a debt management strategy, including the monitoring of payments made on a timely basis. These data are also useful to other market participants, for example, to anticipate new public sector bond issues.

5.29 Table 5.7 presents the debt-service payment schedules of outstanding gross debt, for a specified

¹²See Chapter 2, paragraphs 2.94–2.102, for a discussion of residence.

Table 5.6a. Gross Debt by Residence of the Creditor and Type of Debt Instrument
[specify institutional coverage]

	With debt securities at nominal value	With debt securities at market value
Total gross debt		
Domestic creditors		
Currency and deposits		
Debt securities		
Loans		
Insurance, pension, and standardized guarantee schemes		
Other accounts payable		
External creditors		
Special drawing rights (SDRs)		
Currency and deposits		
Debt securities		
Loans		
Insurance, pension, and standardized guarantee schemes		
Other accounts payable		

Note: Specify where valuation or classification differs from the principles described in Chapters 2 and 3 of this *Guide*.

institutional coverage and on a specific reference date. The debt-service payment schedules are classified by type of debt instrument as well as by currency of denomination. Additional classifications, such as by type of interest rate and residence of the creditor can be added, if desired.

5.30 The statistics presented in Table 5.7 are projected future interest and principal payments of consolidated gross outstanding debt, on the reference date (in other words, the projected amounts, not the discounted present values). These statistics should not cover projected future payments on public sector debt not yet outstanding.¹³ Projections should be based on interest rates, exchange rates, and—for indexed instruments—prices prevailing on the reference date (i.e., not on projections of future interest rates, exchange rates, or prices) to allow for international comparability. If projections of future interest rates, exchange rates, or prices are available and considered to be suitable for national circumstances, these may be used for certain analyses.

¹³In other words, the statistics cover existing debt liabilities, not new debt liabilities that may be incurred in the future.

Table 5.6b. Gross Debt by Residence and Type of Institutional Sector of the Creditor
[specify institutional coverage]

	With debt securities at nominal value	With debt securities at market value
Total gross debt		
Domestic creditors		
General government ¹		
Central bank ¹		
Deposit-taking corporations except the central bank ¹		
Other financial corporations ¹		
Nonfinancial corporations ¹		
Households and nonprofit institutions serving households		
External creditors		
General government		
Central banks		
International organizations		
Financial corporations not elsewhere classified		
Other nonresidents		

Note: Specify where valuation or classification differs from the principles described in Chapters 2 and 3 of this *Guide*.

¹For consolidated debt statistics, inter- and intrasectoral stock positions among public sector units should be eliminated in these categories, as relevant.

5.31 The columns in Table 5.7 are time periods of one year and less, more than one year to two years, more than two years to five years, and more than five years. The time frame in the table may be extended, if necessary. Annual payment data for each year from two years up to five years ahead would help to identify potential significant payment amounts well in advance. Some countries provide annual data for each year out to 10 or 15 years. Table 5.7 shows the recommended minimum breakdowns of debt—more details can be included, if needed.

5.32 Subperiods are presented within the time periods of one year or less, and more than one year to two years. In the one year or less period, quarterly subperiods are presented together with an “immediate” category (see paragraph 5.33). The column “more than 0 to 3 months” excludes payments falling under “immediate.” In the more than one year to two years time period, semiannual (semester) subperiods are presented.

5.33 The time period of one year or less includes a subperiod of “immediate” that covers all debt that

Table 5.6c. Gross Debt by Residence and Currency of Denomination
[specify institutional coverage]

	With debt securities at nominal value	With debt securities at market value
Total gross debt		
Domestic creditors		
Domestic currency denominated		
Foreign currency denominated		
External creditors		
Domestic currency denominated		
Foreign currency denominated		

Note: Specify where valuation or classification differs from the principles described in Chapters 2 and 3 of this *Guide*.

is payable on demand—for example, certain types of bank deposits, as well as all debt that is past due (i.e., arrears, which also include interest on arrears). Debt that is technically due immediately is different in nature from debt due in one year or less because the actual timing of payment on debt due immediately is uncertain. Without an “immediate” time period specified, there is a possibility that an analytically misleading impression could be given by the data for short-term debt—some of this debt might not be repaid for some time.

5.34 When securities contain an embedded option¹⁴ with a date on which, or after which, the debt can be put (sold) back to the debtor by the creditor, the *Guide* recommends that projected payments in Tables 5.7 be estimated without reference to these embedded put options, and that memorandum items on projected payments be provided assuming early repayment at the option date. If national practice is to estimate projected payments on bonds with embedded put options only until the option date, additional memorandum information could be provided on the projected payments on the bond up until the original maturity date.

5.35 Other embedded options might not include a set date, but rather a certain event, such as a credit rating downgrade. For a convertible bond, the price of equity reaching a certain level may be the trigger. While no memorandum item is provided for these instruments, additional data could be compiled on the

¹⁴See Chapter 2, paragraph 2.175, and Chapter 3, paragraph 3.33.

Table 5.7. Debt-Service Payment Schedules of Outstanding Gross Debt as on:
[specify reference date] [specify institutional coverage]

	One year or less (months)					More than one year to two years (months)		More than two years to five years	More than five years
	Immediate ¹	More than 0 to 3	More than 3 to 6	More than 6 to 9	More than 9 to 12	More than 12 to 18	More than 18 to 24		
By instrument									
Special drawing rights (SDRs)	—	—	—	—	—	—	—	—	
Currency and deposits									
Debt securities									
Loans									
Insurance, pension, and standardized guarantee schemes									
Other accounts payable									
By currency of denomination									
Domestic currency denominated									
Principal ²									
Interest ³									
Foreign currency denominated									
Principal ²									
Interest ³									
Memorandum items									
Debt securities with embedded options ⁴									
Guaranteed public sector debt ⁵									
Principal ²									
Interest ³									
Publicly guaranteed private sector debt									
Principal ²									
Interest ³									

¹Immediately available on demand or immediately due. This category includes arrears, interest on arrears, as well as certain deposits.

²Refers to the original principal amounts.

³Comprises interest in arrears and interest on principal and interest in arrears.

⁴Include only those debt securities that contain an embedded option with a date on which, or after which, the debt can be sold back to the debtor.

⁵When gross debt statistics cover the entire public sector, guaranteed public sector debt is zero. This is because guaranteed debt is already included as debt in its own right. When gross debt statistics do not cover the entire public sector, guaranteed public sector debt covers the amount of debt that the guarantor has guaranteed for those public sector units that are not covered in the gross debt statistics.

value and type of this type of public sector debt, where significant.

3. Memorandum tables

a. Publicly guaranteed debt by maturity and type of debt instrument

5.36 The last part of the summary presentation of gross debt (Table 5.1) shows total publicly guaranteed debt. Two memorandum tables are recommended for publicly guaranteed debt:

- Table 5.8a presents details of publicly guaranteed debt, at nominal value and for a specified institutional coverage, by maturity and type of debt instrument; and
- Table 5.8b presents details of the changes between the opening and closing stock positions of publicly guaranteed debt.

5.37 Publicly guaranteed debt is defined as debt liabilities of public and private sector units, the servicing of which is contractually guaranteed by pub-

lic sector units. These guarantees consist of loan and other debt instrument guarantees, comprising a specific type of one-off guarantees (see Chapter 4, paragraphs 4.14–4.20).¹⁵ Although this is debt of the private sector or other parts of the public sector, it represents a potential liability—an explicit contingency in this case—for the public sector unit providing the guarantee.¹⁶ Such contingencies may be important for fiscal policy and analysis, as well as debt management. The statistics for Tables 5.8a and 5.8b should be compiled using the concepts outlined in Chapters 2 and 3 of this *Guide*.

5.38 At the first level of aggregation, Table 5.8a distinguishes between guaranteed public sector debt and publicly guaranteed private sector debt:

- **Guaranteed public sector debt** is the amount of gross public sector debt liabilities, the servicing of which is contractually guaranteed by the public sector unit(s) covered in the public sector debt statistics in Tables 5.1 through 5.7. The magnitude of this amount depends on the institutional coverage of the public sector debt statistics. For example, when consolidated gross debt statistics in Tables 5.1 through 5.7 cover the entire public sector, guaranteed public sector debt is, by definition, equal to zero. However, when consolidated gross debt statistics do not cover the entire public sector (for example, covers the general government sector), guaranteed public sector debt represents that amount of debt that the guarantor (in this case, general government) has guaranteed for those public sector units that are excluded from the gross debt statistics (in this case, all public corporations).
- **Publicly guaranteed private sector debt** is the amount of gross private sector debt liabilities owed by resident units, the servicing of which is contractually guaranteed by those public sector unit(s) covered in the public sector debt statistics in Tables 5.1 through 5.7. If debt of the private sector unit is partially guaranteed by the public sector unit (for example, if principal payments or interest payments alone are guaranteed) then only the nominal value of the payments guaranteed should

¹⁵These tables exclude provisions for calls under standardized guarantee schemes which are liabilities (not contingent liabilities) of a public sector unit (see Chapter 3, paragraphs 3.62–3.63). Explicit contingent liabilities other than loan and other debt instrument guarantees are also excluded. Table 5.12 provides a register of all explicit contingent liabilities as well as net social security obligations (an implicit contingent liability).

¹⁶Once a guarantee is called, the liability is assumed by the guarantor and appears on the guarantor's balance sheet.

Table 5.8a. Publicly Guaranteed Debt by Maturity and Type of Debt Instrument, at Nominal Value
[specify institutional coverage]

Total publicly guaranteed debt
Total guaranteed public sector debt¹ Short-term, by original maturity Currency and deposits Debt securities Loans Insurance, pension, and standardized guarantee schemes Other accounts payable Long-term, by original maturity With payment due in one year or less Special drawing rights (SDRs) Currency and deposits Debt securities Loans Insurance, pension, and standardized guarantee schemes Other accounts payable With payment due in more than one year Special drawing rights (SDRs) Currency and deposits Debt securities Loans Insurance, pension, and standardized guarantee schemes Other accounts payable
Total publicly guaranteed private sector debt Short-term, by original maturity Currency and deposits Debt securities Loans Insurance, pension, and standardized guarantee schemes Other accounts payable Long-term, by original maturity With payment due in one year or less Special drawing rights (SDRs) Currency and deposits Debt securities Loans Insurance, pension, and standardized guarantee schemes Other accounts payable With payment due in more than one year Special drawing rights (SDRs) Currency and deposits Debt securities Loans Insurance, pension, and standardized guarantee schemes Other accounts payable
Total publicly guaranteed debt of nonresidents [specify details]

¹When consolidated gross debt statistics cover the entire public sector, guaranteed public sector debt is zero. This is because guaranteed debt is already included as debt in its own right. When consolidated gross debt statistics do not cover the entire public sector, guaranteed public sector debt covers the amount of debt that the guarantor has guaranteed for those public sector units that are not covered in the gross debt statistics.

Table 5.8b. Reconciliation between Opening and Closing Stock Positions of Publicly Guaranteed Debt, at Nominal Value [*specify institutional coverage*]

Total publicly guaranteed debt at the beginning of the period	
Plus:	Accrued interest
Minus:	Debt-service payments ¹
Plus:	New guarantees provided during the period
Minus:	Guarantees terminated by contractual agreements during the period
Minus:	Explicit debt assumption during the period
	Without acquisition of an effective claim on the original debtor
	With acquisition of an effective claim on the original debtor
Plus/minus:	Other changes
Total publicly guaranteed debt at the end of the period	
Memorandum items	
Fees paid by debtor to guarantor for the guarantee	
Outstanding stock of guaranteed debt explicitly assumed as at the end of the period:	
	Without acquisition of an effective financial claim on the original debtor
	With acquisition of an effective financial claim on the original debtor

Note: The statistics are reported at nominal value, therefore, revaluation adjustments for changes in the exchange rates of guarantees denominated in foreign currencies are included but market price changes are excluded.

¹By the debtor to the creditor.

be included within publicly guaranteed private sector debt.

- **Publicly guaranteed debt of nonresident units** should be included as a separate category in Table 5.8a, if significant.

5.39 The second level of aggregation in Table 5.8a is by maturity (see paragraphs 5.15–5.16), while the third level is by type of debt instrument. These instruments are described in Chapter 3 of this *Guide*.

5.40 Table 5.8b reconciles the stock position of gross publicly guaranteed debt with the flows during the reference period. Several types of flows may affect the stock position of publicly guaranteed debt:

- Interest accruing on the outstanding debt increase the level of publicly guaranteed debt;
- Debt-service payments by the debtor to the creditor decrease the level of publicly guaranteed debt;
- The granting of new guarantees increases the level of publicly guaranteed debt;

- The termination of guarantees as a result of a contractual (i.e., mutual) agreement between the guarantor and the original debtor reduces the level of publicly guaranteed debt;
- Debt assumed by the guarantor during the period as a result of explicit calls on guarantees (i.e., by contractual agreement) reduces the level of publicly guaranteed debt. For these transactions, a distinction could be made between those debt assumptions that resulted in the guarantor acquiring an effective financial claim on the original debtor and those that do not result in the guarantor acquiring an effective claim on the original debtor; and
- Other changes that may increase or reduce the level of publicly guaranteed debt. Included are other volume changes (i.e., flows that are not the result of a mutual agreement between the guarantor and the debtor). For example, the guarantor may unilaterally decide to terminate a guarantee (i.e., not by contractual agreement), thereby reducing the level of publicly guaranteed debt. Other flows may also include changes in the value of guaranteed debt denominated in foreign currencies, due to exchange rate movements. Other changes may also include cases where a debt is considered to be assumed after a number of consecutive defaults by the original debtor (see Chapter 4, footnote 8). This would reduce the level of guaranteed debt. When these “implicitly assumed guarantees” revert back to being guarantees, under certain conditions, this would increase the level of guaranteed debt. These details may be specified under “other flows” in Table 5.8b, if considered useful. Because the data are reported at nominal value, market price movements are excluded from this table.

5.41 Memorandum items may be added to Table 5.8b to provide additional information, such as:

- The fees paid during the period by the debtor to the guarantor to obtain the guarantees; and
- The total stock position of publicly guaranteed debt that has been assumed by the guarantor and that remains outstanding. As with the transactions, a distinction could be made between the debt assumed without the acquisition of an effective claim on the original debtor and debt assumed with the acquisition of an effective claim on the original debtor.

b. Debt-service arrears by type of arrears and type of instrument

5.42 The last part of the summary presentation of gross debt (Table 5.1) shows total amount debt-service payments in arrears. If these arrears are significant relative to the total amount of gross debt, information on these arrears should be presented as a detailed memorandum table. As explained in Chapter 2, arrears are defined as amounts that are both unpaid and past the due date for payment. Only the amounts past due are classified as arrears—for example, in the case of overdue debt-service payments, only the overdue part is in arrears. When principal and interest payments are not made when due, such as on a loan, debt-service arrears are created. An accrual basis of recording system does not provide separate information on flows relating to arrears, nor on which debt instruments are in arrears. Compilers need to collect supplementary information on debt-service payments in arrears. Such information is useful for policy analysis and solvency assessments.

5.43 Table 5.9 presents details of consolidated debt-service arrears, for a specified institutional coverage, by **type of arrears** and **type of debt instrument**. Three types of arrears are distinguished: arrears in principal payments, arrears in interest payments, and interest accrued on principal and interest payments in arrears.

5.44 According to accrual accounting principles, interest accrued but not due for payment is added to the outstanding principal. However, in Table 5.9, “principal” and “interest” refer, respectively, to the principal payments and interest payments that are past due for payment.

Table 5.9. Arrears by Type of Arrears and Type of Debt Instrument
[specify institutional coverage]

Total arrears
By type of arrears
Principal
Interest
Interest on arrears
By type of debt instrument
Special drawing rights (SDRs)
Currency and deposits
Debt securities
Loans
Insurance, pension, and standardized guarantee schemes
Other accounts payable

Note: If considered useful, this table can also present each type of arrears as subcomponents of each debt instrument.

5.45 Interest that accrues on arrears (both principal and interest arrears) is known as late interest. For arrears arising from a debt contract, interest should accrue at the same interest rate as on the original debt, unless the interest rate for arrears was stipulated in the original debt contract, in which case this stipulated interest rate should be used. The stipulated rate may include a penalty rate in addition to the interest rate on the original debt. For other arrears, in the absence of other information, interest costs accrue on these arrears at the market rate of interest for overnight borrowing. Also, any additional charges relating to past arrears (such as penalties) should be regarded as interest on arrears of the debtor at the time the agreement is implemented. If an item is purchased on credit and the debtor fails to pay within the period stated at the time the purchase was made, any extra charges incurred should be regarded as interest on arrears and accrue until the debt is extinguished.

5.46 To present information on arrears by type of arrears and type of debt instrument—as in Table 5.9—the underlying source data should provide, for each debt instrument, details on the type of arrears. Therefore, if considered analytically useful, Table 5.9 can also present the type of arrears as subcomponents of each of debt instrument, as relevant.

c. Reconciliation of market and nominal value of debt securities

5.47 This *Guide* recommends that debt securities be valued at nominal and market value. While the market value takes into account fluctuations in market prices, the nominal value does not. Market prices change over time for a number of reasons, including changes in market interest rates, changes in investor perception of the creditworthiness of the debtor, and changes in market structure (such as might affect market liquidity).

5.48 The divergence in the market and nominal value of debt securities at one moment in time, and over time, is of analytical value. For this reason, Table 5.10 provides a framework for reconciling nominal and market valuation of debt securities **by residence** and **institutional sector of the creditor**. Institutional sectors of the creditors are described in Chapter 3 of this *Guide*.

d. Nondebt liabilities, explicit contingent liabilities, and net obligations for future social security benefits

5.49 In macroeconomic statistics, nondebt liabilities, explicit contingent liabilities, and net obligations for future social security benefits of public sector units

**Table 5.10. Debt Securities by Residence and Type of Institutional Sector of the Creditor—
Reconciliation of Market and Nominal Value [specify institutional coverage]**

	Market value	Difference with nominal value	Nominal value
Total gross debt securities by residence and type of institutional sector of the creditor			
Domestic creditors			
General government			
Central bank			
Deposit-taking corporations except the central bank			
Other financial corporations			
Nonfinancial corporations			
Households and nonprofit institutions serving households			
External creditors			
General government			
Central banks			
International organizations			
Financial corporations not elsewhere classified			
Other nonresidents			

Notes: Specify where valuation or classification differs from the principles described in Chapters 2 and 3 of this Guide.

are not **debt** liabilities. However, public sector debt statistics tables may be supplemented with tables containing information on these items, if they are considered to be significant and/or relevant.¹⁷ This section focuses on the stock positions of financial derivatives (a nondebt liability and financial asset in a public sector unit's balance sheet), explicit contingent liabilities, and the net obligations of government for payments of social security benefits (such as retirement benefits and health care) in the future.

i. Financial derivatives position

5.50 Table 5.11 presents stock positions on **financial derivatives**. Financial derivatives are recognized as liabilities but not debt. However, because of the use of financial derivatives to hedge financial positions as well as to take open positions, these contracts can add to a public sector unit's liabilities and, if used inappropriately, cause significant losses. In comparing financial derivatives data with public sector debt, the user should be aware that financial derivatives might be hedging asset or liability positions, or a whole portfolio of assets and liabilities.

5.51 Table 5.11 includes gross assets as well as gross liabilities because of the market practice of creating offsetting contracts, and the possibility of forward-type instruments switching from asset to liability positions,

and vice versa, from one period to the next. For instance, a borrower hedging a foreign currency borrowing with a forward contract might find that the value of the hedge switches from asset to liability position from period to period depending on the movement in exchange rates.

**Table 5.11. Financial Derivatives Position
[specify institutional coverage]**

	At market value	At notional value
Net financial derivatives position		
Options		
By market risk categories ¹		
Forward-type contracts		
By market risk categories ¹		
Financial derivative assets		
Options		
By market risk categories ¹		
Forward-type contracts		
By market risk categories ¹		
Financial derivative liabilities		
Options		
By market risk categories ¹		
Forward-type contracts		
By market risk categories ¹		

Note: Specify where valuation or classification differs from the principles described in Chapters 2 and 3 of this Guide.

¹Market risk categories are foreign exchange, single-currency exchange rate, equity, commodity, credit, and other.

¹⁷For example, a supplementary table showing the extent of pension schemes may be included (see Table 17.10 in the 2008 SNA and paragraphs 2.77–2.85 in Chapter 2 of this Guide).

To present only the liability position in financial derivatives along with gross public sector debt would imply that the foreign currency borrowing was only hedged when the forward contract was in a liability position, so creating a misleading impression. Thus, financial derivatives liability positions should be considered alongside financial derivative asset positions.

5.52 The financial derivatives position should be recorded at market value and notional value. *The notional amount—sometimes described as the nominal amount—is the amount underlying a financial derivatives contract that is necessary for calculating payments or receipts on the contract.*¹⁸ This amount may or may not be exchanged. In the specific case of a swap contract, the market value is derived from the difference between the expected gross receipts and gross payments, appropriately discounted; that is, its net present value. The market value for a forward contract can therefore be calculated using available information—market and contract prices for the underlying item, time to maturity of the contract, the notional value, and market interest rates. From the viewpoint of the counterparties, the value of a forward contract may become negative (liability) or positive (asset) and may change both in magnitude and direction over time, depending on the movement in the market price for the underlying item. Forward contracts settled on a daily basis, such as those traded on organized exchanges—and known as futures—have a market value, but because of daily settlement they are likely to have zero value at each end-period.

ii. Explicit contingent liabilities and net obligations for future social security benefits

5.53 This *Guide* recommends presenting information on values of explicit contingent liabilities, if they are considered to be significant and/or relevant. Explicit contingent liabilities, which are discussed under Contingent Liabilities in Chapter 4, may be grouped into three main categories for presentational purposes, as shown in Table 5.12. Details of loan and other debt instrument guarantees (which most likely constitute the majority of one-off guarantees), are provided in Tables 5.8a and 5.8b (publicly guaranteed debt). The remaining categories are not covered elsewhere in the debt presentation tables and it is recommended to disseminate such information in Table 5.12, if considered significant and/or relevant. Additional subcategories may be listed in Table 5.12, as relevant.

5.54 As explained in Chapter 2, paragraph 2.80, no liability is recognized in macroeconomic statistical systems

¹⁸For example, a forward contract that covers the variation of 100,000 from a particular bilateral exchange rate has a notional value of 100,000 but may have a market value of zero.

for social security benefits—such as retirement benefits and health care—payable in the future.¹⁹ These obligations are implicit contingent liabilities. All contributions to social security schemes are treated as revenue (transfers) and all payments of benefits are treated as expense (transfers). The present value of social security benefits that have already been earned according to the existing laws and regulations but are payable in the future should be calculated in a manner similar to the liabilities of an employer retirement scheme. This amount minus the present value of social security scheme contributions, provide an indication of the net obligations that a government unit has for social security benefits payable in the future.

4. Additional public sector debt information

5.55 The core tables outlined in this chapter may be supplemented with additional tables on aspects of public sector debt statistics not covered in those tables. These could include historical data on gross debt issuance, information on yields in the primary and secondary markets, and credit ratings for specific types of debt instruments. These tables can be considered based on availability of data and analytical needs.

¹⁹In contrast, social security benefits due for payment but not yet paid are included as accounts payable in a public sector unit's balance sheet. Also included in the balance sheet (and thus excluded from implicit contingent liabilities) are public sector units' liabilities for unfunded nonautonomous pension schemes for their employees.

Table 5.12. Summary of Explicit Contingent Liabilities and Net Obligations for Future Social Security Benefits
[specify institutional coverage]

Total explicit contingent liabilities	
One-off guarantees	
	Loan and other debt instrument guarantees ¹
	Other one-off guarantees ²
Other explicit contingent liabilities not elsewhere classified	
	Legal claims
	Indemnities
	Uncalled share capital
	...
Net obligations for future social security benefits	
	Present value of obligations for future social security benefits
Minus:	Present value of future contributions to social security schemes

¹This *Guide* recommends disseminating details of loan and other debt instrument guarantees (i.e., publicly guaranteed debt) as shown in Tables 5.8a and 5.8b.

²For example, credit guarantees and other similar contingent liabilities (such as lines of credit and loan commitments), contingent "credit availability" guarantees, and contingent credit facilities.

5.56 There may also be analytical interest in the average interest rates on gross public sector debt or any specific debt instrument. Information on the average interest rates can provide an indication of the borrowing costs of the public sector unit(s) and can be used to help estimate debt-service interest rate payments. Also, concessionality of borrowing could be imputed. Information on average interest rates on short- and long-term original maturity instruments could be provided in addition to the total average interest rate (see Table 5.13). It may also be useful to provide further breakdowns of average interest rates, such as by currency of denomination. In addition to the weighted-average interest rates on outstanding public sector debt, Table 5.13 could be used to present data on the weighted-average level of interest rates agreed on new borrowing during the period.

5.57 *The average interest rate is the weighted-average level of interest rates on the outstanding gross public sector debt or any specific debt instrument, at nominal and market value, as at the reference date. The weights to be used are determined by the value in the unit of account of each borrowing as a percentage*

of the total. For example, for the general government sector the weight given to the interest rate on each debt instrument equals the value in the unit of account of that debt as a percentage of total gross debt for the general government sector. Ideally, average interest rates for debt securities and loans would be derived from a detailed debt management system. Alternatively, average interest rates may be derived from interest payable as a ratio to the relevant value of debt, expressed at an annual rate. Interest should be recorded on an accrual basis because on a cash basis fluctuations may occur (due to the timing of coupon payments and the under- or overestimation of the average interest rate resulting from deep-discounted bonds). Insurance, pension, and standardized guarantee schemes generate property income of a different nature to interest. However, the average rate of return may be derived from the discount factor used to calculate the present value or earnings on invested funds.

5.58 The relevant interest rate level for each debt instrument is affected by whether it has a fixed- or variable-linked interest rate (defined in paragraphs 5.20–5.26). If the interest rate is contractually fixed, then this rate should be used, taking account of any discount and premium at issuance. If the rate of interest had been variable in the past but is now fixed, the current fixed-rate should be used. For variable-rate instruments, the rate of interest on each instrument should be the rate accruing on the reference day. In other words, usually variable rates of interest are reset on a periodic basis, and it is the level of the interest rate applicable on the reference day that should be used. If the interest rate is reset on the reference date, that rate should be reported and not the previous interest rate. If for any reason the variable rate is not observable, then the level of the reference index or appropriate price on the reference date, or, if the link is to a change in the reference index, the recorded change for the relevant period up to the reference date, or the closest relevant time period available, together with any existing additional margin the borrower needs to pay, should be used to calculate the interest rate level.

5.59 For calculating the weighted average of interest rates agreed on new borrowing during the period, the interest rates recorded would be those established at the time of the borrowing. If the interest rate is contractually fixed, then this rate should be used. For variable-rate borrowing, the rate of interest on each instrument should be that which is accruing on the day the claim is established. The weights to be used in compiling average interest rate data are determined by the value in the unit of account of each borrowing, on the date the claim was established, as a percentage of the total borrowed during the period.

Table 5.13. Average Interest Rates by Original Maturity and by Type of Debt Instrument [specify institutional coverage]

	With debt securities at nominal value	With debt securities at market value
Total gross debt		
Short-term, by original maturity		
Currency and deposits		
Debt securities		
Loans		
Insurance, pension, and standardized guarantee schemes		
Other accounts payable		
Long-term, by original maturity		
Special drawing rights (SDRs)		
Currency and deposits		
Debt securities		
Loans		
Insurance, pension, and standardized guarantee schemes		
Other accounts payable		

Note: Specify where valuation or classification differs from the principles described in Chapters 2 and 3 of this *Guide*. While all debt instruments are listed here for completeness' sake, not all debt instruments have an average interest rate (for example, currency and insurance, pension, and standardized guarantee schemes).

Annex: Maastricht Debt of the European Union

This annex describes the main features of the European Union's Maastricht debt.

1. Introduction

5.60 The Stability and Growth Pact (SGP) is a rule-based fiscal framework intended to ensure fiscal discipline in the EU. The two selected fiscal indicators for monitoring the fiscal developments under the SGP are the deficit and debt-to-GDP ratios of the general government. The core principle is that EU countries should avoid excessive deficits (Article 104 of the Maastricht Treaty establishing the European Community, as amended by the Treaty of Amsterdam). Hence, the government deficit-to-GDP ratio is allowed to exceed a reference value of three percent of GDP under exceptional circumstances only. The government debt-to-GDP ratio is not allowed to be higher than a reference value of 60 percent of GDP, unless the ratio is sufficiently diminishing and approaching the reference value at a satisfactory pace. These two fiscal indicators, and their reference values of three percent and 60 percent of GDP, are also the subject of the fiscal convergence criteria for entry to the EU and to the Stage Three of the Economic and Monetary Union (EMU or euro area).

2. Main features

5.61 Government debt (“Maastricht debt” or “EDP debt”) is defined in the Protocol on the Excessive Deficit Procedure (EDP) annexed to the Maastricht Treaty and in Article 1 (5) of Council Regulation (EC) No 479/2009 as the total general government gross debt at nominal value outstanding at the end of the year with the following characteristics:

- **Sector delineation:** Maastricht debt comprises the consolidated liabilities of the general government sector, therefore including all levels of government: central government, local government, social security funds, and when applicable state government. This means that the debt of public corporations is excluded in the measurement of government debt in the EU.
- **Breakdown by instruments:** Maastricht debt consists of the following liabilities of general government: currency and deposits, securities other than shares, excluding financial derivatives, and loans, as defined in the *European System of Accounts (ESA95)*. This means that it excludes *ESA95*

instruments that are difficult to measure, such as insurance technical reserves and other accounts payable. Accordingly, the Maastricht definition of debt differs from the measure of total gross debt (see Chapter 2, paragraph 2.3) but corresponds with one of the narrower measures of debt provided in Chapter 2, paragraph 2.7.

- **Valuation rules:** Maastricht debt is measured at “nominal value” and equals the contractually agreed amount that the government will have to refund to creditors at maturity. In the *GFSM* and this *Guide*, this method of valuation is known as “face value.” This means, in particular, that the government debt is not affected by changes in market yields, and excludes unpaid accrued interest. Maastricht debt is thus measured differently than most government liabilities in the national accounts, which are recorded at market value.
- **Consolidation:** Maastricht debt is consolidated across the general government sector, which implies that government debt instruments held as assets by general government units are not included in the calculation of government debt.
- **Gross debt:** Maastricht debt is “gross” debt which means that financial assets of general government units are not subtracted in the calculation of government debt.

5.62 All EU countries are legally required to report the breakdown of government debt by instrument and initial maturity to Eurostat. Furthermore, the *ECB Guideline on Government Finance Statistics (ECB/2009/20)* requires all euro area national central banks to report additional breakdowns of government debt to the European Central Bank: by residual maturity, by holding sector, and by currency.

5.63 As mentioned previously, Maastricht debt is based on internationally harmonized national accounts data (*ESA95*) and, in most of the cases, the data are compiled through the cooperation of the national statistical offices, central banks, and the ministries of finance. With the aim of ensuring a consistent compilation of the government deficit and debt across EU countries, Eurostat has developed a well-defined procedure for dealing with borderline specific transactions: Eurostat consults the Committee on Monetary, Financial, and Balance of Payments Statistics (CMFB), comprising senior statisticians of central banks and national statistical institutes. The European Commission and the European Central Bank

are also Members of the CMFB. Eurostat then makes the final decision, according to purely technical criteria, which is applicable to similar cases in all the EU countries. The decision on each issue is recorded

in methodological notes and disseminated through press releases. The main methodological decisions have been further elaborated in the *ESA95 Manual on Government Deficit and Debt*.

Data Collection, Compilation, and Dissemination

This chapter describes the collection of source data from various source data systems, and considerations in the compilation and dissemination of public sector debt statistics.

A. Introduction

6.1 While the process of collecting, compiling, and disseminating public sector debt statistics will vary from country to country, the following common aspects need to be considered (see Figure 6.1):

- Compilation and dissemination of the statistics;
- Main data sources; and
- Source data system(s) and/or source data compilers, including the underlying data requirements.

6.2 A precondition for reliable and timely statistics is that a strong and well-organized institutional setting for the compilation of statistics on public sector debt is in place—so that public sector and publicly guaranteed debt is well monitored and managed (see UNCTAD, 1993). This chapter first considers some of the key institutional issues to be addressed when undertaking the compilation and dissemination of public sector debt statistics. In particular, this chapter emphasizes the need for:

- A coordination of effort among official agencies, with one agency having overall responsibility for compiling and disseminating the complete set of public sector debt statistics;
- Adequate resources and appropriate legal backing for the source data collection that will allow the compilation and dissemination of the public sector debt statistics; and
- Dissemination of the public sector debt statistics in a frequent and timely manner that serves users' needs.

6.3 Subsequently, this chapter provides guidance on how public sector debt statistics might be collected and compiled. This guidance is not intended to be comprehensive. Indeed, some elements of public sector debt statistics are easier to collect and compile than others. For example, compiling public sector debt statistics on a government's domestic currency loan from a group of domestic banks is more straightforward than collecting information on nonresident ownership of a government's domestic bond issues. But both sets of statistics are required. It is particularly difficult to obtain statistics on ownership of traded securities, because each change of ownership of these securities may not be registered—this issue is addressed in Chapter 7.

B. Some Institutional Considerations for the Compilation and Dissemination of Statistics

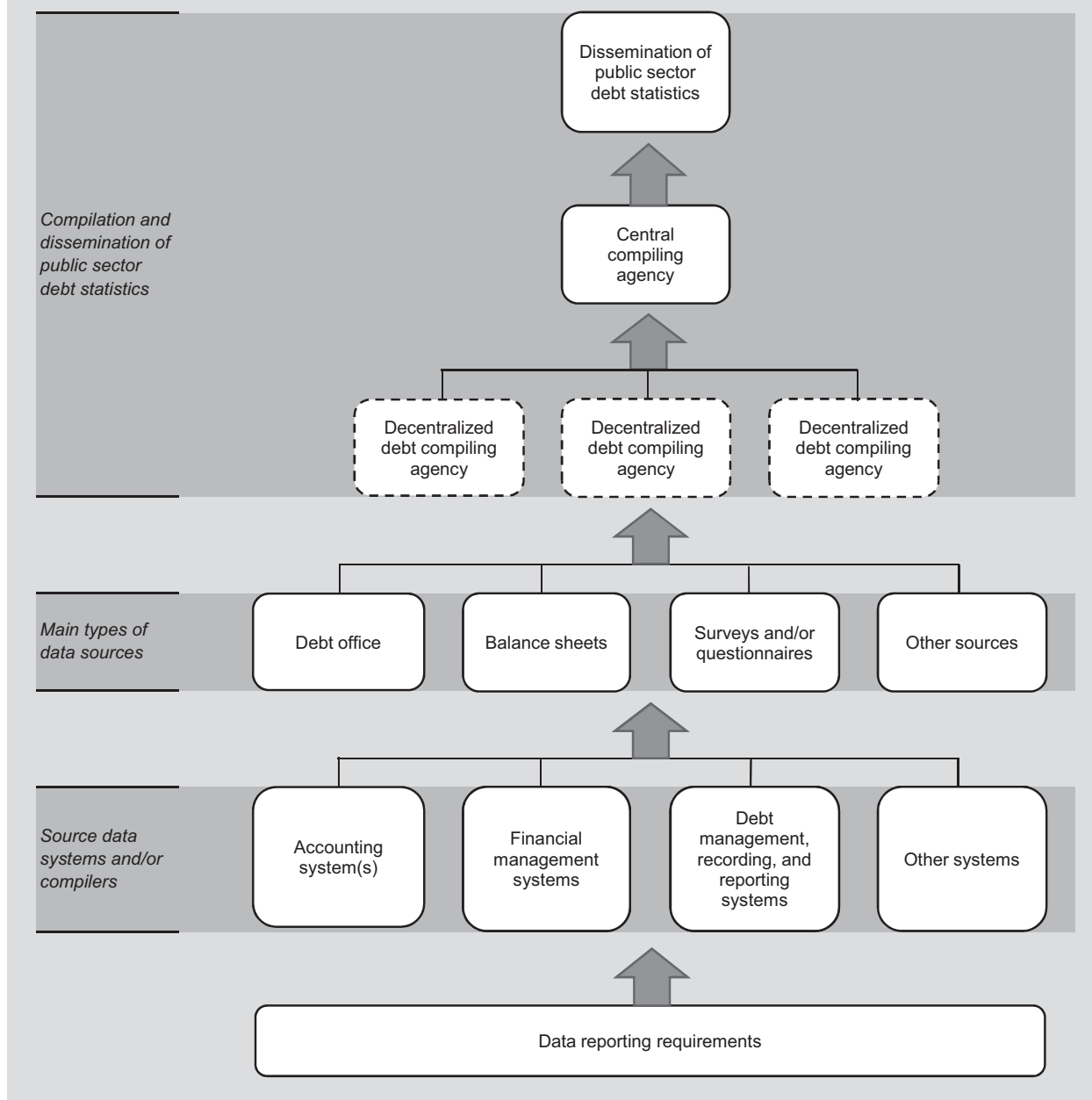
6.4 This section deals with the two final aspects in the public sector statistics compilation process: the compilation and dissemination of the statistics.

I. Coordination among official agencies

6.5 If the responsibility for debt compilation is shared between several agencies, it should be clearly established which agency has the primary responsibility for compiling and disseminating the complete set of public sector debt statistics—hereafter referred to as the **central compiling agency**. Responsibility may be assigned through a statistical law or other statutory provision, interagency protocols, executive decrees, etc.

6.6 This *Guide* does not recommend which institution should be responsible for compiling and disseminating public sector debt statistics; this depends on the institutional arrangements in each country. Nonetheless, it is likely that the central compiling agency is the central

Figure 6.1. Main Considerations in the Process of Collecting, Compiling, and Disseminating Public Sector Debt Statistics



bank, the ministry of finance, an independent debt management office, or a national statistical agency.¹

6.7 In whatever way the statistics are to be collected and compiled—and invariably a range of methods

¹A national statistical agency may be a user of the debt data, in the sense that the data are communicated by the ministry of finance and/or the central bank to the national statistical agency for publication.

and approaches will be adopted—the process will be resource intensive. Thus, where there is more than one agency involved in the compilation of public sector debt statistics, there should be a coordinated and cooperative effort, avoiding duplication of effort and ensuring as far as possible consistency of approach across related data series. With computerized techniques, different units can be connected through computer networks

facilitating the specialization of the different institutions concerned, without hindering data reporting and compilation. In this regard, procedures to ensure, as far as possible, smooth and timely flows of data between data compiling agencies are essential.

6.8 It is essential that adequate agreements or procedures exist to facilitate data sharing and coordination among the central compiling agency and other data-producing agencies (i.e., source data producing agencies or decentralized compiling agencies). Among other things, these procedures should provide for the effective and timely flow of source data to the central (or decentralized) agencies that compile public sector debt statistics.

6.9 It is also important to ensure that well-established contacts between the staff of the different agencies exist. This will facilitate dealing with any problems, or difficulties, in an expeditious manner, and avoid duplication of data coverage in the different institutions. One way of encouraging cooperation, developing contacts, and resolving problems that arise is to hold regular meetings among staff of the various agencies, at the working level. Not only could these meetings help resolve problems that might be arising, but there would also be an opportunity to notify each other of upcoming developments and possible future enhancements or changes to collection systems. This type of cooperation helps ideas to spread and improvements to be made, allows institutions to understand each other's position, and helps build important personal contacts.

6.10 If public sector debt statistics are compiled by different agencies, the following considerations must be borne in mind:

- The concepts used and instruments presented should be consistent, or at least reconcilable. When merging together various sources, the central compiling agency must ensure that other contributing agencies are aware of, and supply statistics that are consistent with, core concepts and presentation requirements (such as residence, valuation, etc.), as outlined in this *Guide*. Indeed, the central compiling agency should develop expertise in these standards. In a sense, the central compiling agency should act as the guardian of these standards to ensure that statistics supplied by the other agencies meet the requirements in terms of the coverage, concepts, valuation principles, basis of recording, as well as the periodicity and timeliness on which these statistics have to be provided.

- It is recommended that the central compiling agency carries out, as far as possible, cross-checking of data on a regular basis (at least once a year). Such cross-checking will involve comparing data with those of creditors as well as other macroeconomic statistics, such as external statistics (International Investment Position and external debt) and monetary and financial statistics. The comparisons can either be undertaken on an individual instrument basis (for example, specific government loans) by the agency responsible for compiling these statistics, and/or at an aggregate level using other macroeconomic statistics datasets and compare, for example, external debt statistics of the government sector.
- There should be mechanisms to ensure that the disseminated public sector debt statistics continue to meet the needs of policymakers and other users. Meetings could be periodically convened with policymakers and other data users to review the comprehensiveness of the public sector debt statistics and to identify any emerging data requirements. New initiatives could be discussed with policy departments and statistical advisory group(s); such discussions provide scope for seeking additional resources. From these discussions, and in consultation with both users and other compiling agencies, the central compiling agency might devise a strategic plan to improve the quality and coverage of public sector debt statistics.

2. Resources

6.11 Resource allocation decisions for the compilation of statistics are the preserve of the authorities in each country and should be periodically reviewed. Nonetheless, the authorities are encouraged to provide, at least, adequate resources to perform existing tasks—that is, adequate staff, financial, and computing resources. In particular, key staff should be knowledgeable and well-versed in public sector debt concepts and compilation methods, and a core contingent of trained public sector debt statisticians should be retained at any point in time. Instructions for performing existing tasks should be maintained. New compilers could be provided formal and on-the-job training in public sector debt compilation methods, including international statistical standards and system procedures for handling and processing of data.

3. Legal framework

6.12 Obtaining appropriate legal support for statistics collection could be a complicated and lengthy process, likely to be undertaken infrequently. Given this, a first step should be to determine whether there is any existing legal support for statistics collection that could be employed to acquire the required information. If not, there may be a need to seek additional legal support.

6.13 The legal framework for the collection of statistical information varies from country to country, depending, not least, on the institutional arrangements and the historical development of statistical gathering. Nonetheless, some elements typically covered include:

- A designation of the type of entities that the central compiling agency can approach for data (for example, entities in the public corporations sector) and for what purpose (for example, to compile flows and stock positions in financial assets and liabilities).
- The boundaries of the compiling agency's responsibilities, without being so restrictive that the agency does not have the freedom to adapt as new developments emerge.
- A provision for the possibility of imposing penalties on respondents for nonresponse, which should be accompanied by an appropriate legal mechanism for enforcement.²
- While generally not applicable to general government units, because of their accountability function to the public, a clear statement may be needed that information supplied by individual public sector entities outside the general government sector would not be separately disclosed and would only be published in the form of statistical aggregates (except, perhaps, where explicit permission is given from an individual entity to disclose information), along with appropriate penalties for the compiling agency and, in particular, individual employees, if such information is disclosed.
- A prohibition on the use by the authorities of information supplied by individual entities for any purpose other than statistics compilation, thus establishing the independence of the statistics compilation function from other government

²Consideration might also be given to the possibility of imposing penalties on respondents for misreporting (i.e., intentionally providing incorrect data) and late reporting.

activity.³ The prohibition should be supported by penalties and a mechanism for their enforcement.

- A prohibition on other government agencies influencing the content of statistics releases.⁴
- The establishment of an oversight committee of independent experts to help ensure the professionalism and objectivity of the compiling agency.

6.14 Within such a legal framework, the public sector debt statistics compiler would have the necessary support for the collection of information from, for example, public corporations or extrabudgetary government units. However, compilers should use the legal framework to help and encourage the public sector entities to report rather than solely relying on the legal backing.

4. Dissemination of public sector debt statistics

6.15 The compilation of public sector debt statistics is undertaken for the ultimate purpose of making them available to policymakers and other users. Comprehensive and timely statistics on public sector debt:

- Allow users to monitor the evolution of the public sector's debt liabilities and its debt-service obligations over time;
- Can provide early warning signals of possible debt-servicing problems;
- Serve as an indicator of the sustainability of government and public corporations' policies; and
- Serve as essential inputs for government budget preparation, for approval by parliament, for execution, for forecasting, as well as for compiling other macroeconomic statistics.

6.16 Statistics should be publicly disseminated on a frequent and timely basis, preferably according to a well-established, pre-announced release schedule. The dissemination of statistics could be in print and/or electronic form. As part of the dissemination process, the concepts, definitions, classifications, and methodology

³This has limited applicability for government entities and perhaps only apply to commercial-in-confidence aspects of public corporations.

⁴Data integrity is very important for the statistical function. Where compiling agencies have an operational as well as recording function, consideration might be given to delineating functions so that the statistical function operates at "arm's length" from other functions.

used should be documented and disseminated in publication form, at regular intervals.⁵ This metadata could also identify any significant deviations from internationally accepted standards, biases in the statistics, and information about response rates, if any surveys are employed in collecting public sector debt statistics. The IMF's Special Data Dissemination Standard (SDDS) and General Data Dissemination System (GDDS) provide further guidance on good practices for the timeliness and periodicity of public sector debt statistics being disseminated.⁶

6.17 Often, to meet the legitimate needs of users, statistics will be published that could well be subject to later revision. In such cases, users should be alerted that the initially published data are preliminary and may be subject to revision. If revised data are later published, users should be informed of the revisions, with explanations appropriate the size of the revisions. Also, if major changes to the statistical methodology are to be implemented, it is strongly recommended that users be given advance notice, and sufficient back runs of data provided after the revisions have been published. In general, providing the user with such information is likely to engender greater confidence in the statistics and may help encourage a "culture of reporting" to the compiling agency(ies).

C. Main Data Sources

6.18 This section examines possible data sources and range of methods that can be used by the compiling agency(ies) to compile public sector debt statistics.

6.19 Ideally, the relevant information needed to compile statistics on all aspects of public sector debt (see Chapter 5) is built into the government and public corporations' accounting system(s), and debt statistics can be relatively easily derived from a financial information management system or a debt recording and reporting system. However, for most countries, this may not be the case or it may only be so for some public sector units. If so, alternative methods should be employed. Statistics can be collected from the debtor, from the creditor, or indirectly through information in the form of surveys, regulatory reports, published financial statements (in particular, balance sheets) of public sector units, and/or from other administrative

records. Information may also be available from monetary and financial, international investment position, and other macroeconomic statistics. The more detailed the source data, the more accurate are the public sector debt statistics being compiled.

6.20 Information collected at the level of the individual debt instrument provides the compiling agency(ies) with the greatest flexibility in meeting user requirements. Also, instrument-by-instrument detail supports detailed quality checks. However, it may not always be possible or practical to collect information at the level of the individual debt instrument.⁷ It may well be necessary to use a combination of data sources. For example, information could be collected at the individual debt instrument for large public corporations, and by other means (such as periodic surveys, see paragraphs 6.32–6.38) for small public corporations.

6.21 Table 6.1 summarizes, by debt instrument and main component of the public sector, the possible data sources for compiling public sector debt statistics. Four main types of data sources—which are discussed in detail below—may be distinguished:

- Debt office(s);
- Balance sheets;
- Questionnaires and periodic surveys; and
- Other sources.

6.22 As illustrated in Figure 6.1, data could be drawn from one, or more, of the following source data systems and/or source data compilers to obtain source data⁸:

- Accounting systems;
- Financial management systems;
- Debt management, recording, and reporting systems; and
- Other systems.

I. Debt office(s)

6.23 A debt office, or an asset and liability management office/department, would usually be

⁵These metadata may be included in a regular publication of public sector debt statistics or published separately.

⁶See <http://www.dsbb.imf.org> for details on the SDDS and GDDS.

⁷In many countries, the majority of public sector debt other than that of the central government (for example, public corporations) tends to be concentrated in a small number of the largest units. For example, 90 percent of public corporations' debt may be concentrated in the largest five companies. There is also a tendency in many countries for borrowing over a certain size to be limited to only a few public sector units.

⁸The systems would take into account source data requirements.

Table 6.1. Possible Data Sources for Compiling Public Sector Debt Statistics
A = Debt management office; B = Balance sheet(s); C = Survey / questionnaire; D = Other sources

Debt instrument	Special drawing rights (SDRs)	Currency and deposits	Debt securities	Loans	Insurance, pension, and standardized guarantee schemes	Other accounts payable
Main public sector components						
Budgetary central government	B, D	B; C	A; B	A; B	B; D	B; C
Extrabudgetary central government	—	B; C	A; B; C	A; B; C	B; C; D	B; C
Social security funds	—	B; C	A; B; C	A; B; C	B; C; D	B; C
Central government subsector	<i>Calculated (for consolidation, see Chapter 8)</i>					
State governments	—	B; C	A; B; C	A; B; C	B; C; D	B; C
Local governments	—	B; C	A; B; C	A; B; C	B; C; D	B; C
General government sector	<i>Calculated (for consolidation, see Chapter 8)</i>					
Public nonfinancial corporations	—	B; C	A; B; C	A; B; C	B; C; D	B; C
Nonfinancial public sector	<i>Calculated (for consolidation, see Chapter 8)</i>					
Central bank	B	B	B	B	B	B
Deposit-taking corporations except the central bank	—	B; C	A; B; C	A; B; C	B; C; D	B; C
Other financial corporations	—	B; C	A; B; C	A; B; C	B; C; D	B; C
Financial public sector	<i>Calculated (for consolidation, see Chapter 8)</i>					
Total public sector	<i>Calculated (for consolidation, see Chapter 8)</i>					

the main source for stock (and flow) data on **debt securities** and **loans**. Many countries have one debt office—the government debt office—covering the debt securities issued by, and loans of, various components of the public sector. However, it is possible that state and/or local governments and public corporations may have their own debt offices if they are issuers of debt securities and/or large borrowers from abroad. While the remainder of this section discusses a government debt office as data source, the same principles would apply to debt offices at other levels of the public sector.

6.24 Typically, a government debt office is either within the ministry of finance or constituted as a separate agency within the government sector or the central bank. Whether the government debt office is the central compiling agency of public sector debt statistics or not, it is, for reasons outlined earlier in this chapter, also important that the government debt office coordinate, as appropriate, with any other agencies involved with the compilation of public sector debt statistics.

6.25 A government debt office is responsible for debt management, which involves seven functions. These are discussed in detail in the annex to this chapter. Proper records of debt (see paragraphs 6.42–6.44)

are fundamental for effective debt management and the availability of accurate and up-to-date statistics determines how effectively the debt office can carry out its other functions—whether they are operational or analytical. It is critical to the smooth functioning of a government debt office that the compilation, recording, and dissemination (if the debt office is the central compiling agency) of debt statistics be undertaken in a timely and comprehensive manner.

2. A balance sheet

a. General considerations

6.26 Typically, extrabudgetary units, social security funds, and public corporations compile financial statements, including **balance sheets**, usually according to an internationally accepted accounting standard. These balance sheets are compiled annually, and often on a quarterly basis as well. Budgetary units of central government, state governments, and local governments are also increasingly implementing accrual accounting systems and compiling financial statements (including balance sheets) following international (or national) accounting standards.

6.27 A balance sheet provides, in particular, information on “nontraditional” debt instruments, such

as **special drawing rights (SDRs),⁹ currency and deposits, insurance, pension, and standardized guarantee schemes, and other accounts payable.** A balance sheet also provides information on financial assets held in the form of debt instruments. However, balance sheets are usually presented on an aggregated basis and compilers will have to find additional detailed information, often captured in the notes to the balance sheets. If the balance sheet and notes to the balance sheet do not provide the required information to compile debt statistics, additional information—such as the residence of creditors—should be collected from supplementary sources.

6.28 In addition to liabilities of public sector units, compilers should collect data on outstanding guarantees given by public sector units (for example, by central government units or deposit-taking financial corporations in the public sector). These public sector units do guarantee debts of public and private non-financial sector borrowers, and this information should be disseminated as a memorandum items to the debt statistics, as described in Chapter 5.

6.29 When using balance sheets as sources to compile public sector debt statistics, compilers should understand the methodology underlying the debt liabilities in the source balance sheet, to ensure that the debt statistics they compile reflect, as relevant, the proper valuation, classification, and basis of recording. If needed, source data should be adjusted to reflect the proper valuation, classification, and basis of recording.

b. Public deposit-taking financial corporations

6.30 An important source of information on debt of public financial corporations is the public deposit-taking financial corporations sector. These public financial corporations are closely regulated in nearly all countries—and so are usually identifiable to the compiling agency—and have to report balance sheet data to central banks or regulatory agencies both for supervisory and monetary policy purposes. However, balance sheets typically do not contain sufficient detailed information on the maturity of loans and deposits; and additional information would be required to calculate the debt-service payment schedules.¹⁰ This

is best achieved by obtaining and using information on individual debt instruments. When these data are not available to the compiling agency, and depending on the type of debt liability, the compiler can estimate projected interest costs using stock position data and appropriate representative interest rates, but some indication of a payment schedule is required for projecting principal payments.

6.31 Central government and public corporations sometimes borrow from foreign lenders via resident public deposit-taking financial corporations instead of directly from foreign lenders themselves. The loans may be denominated in foreign currency, and central government or public corporation as the ultimate borrower, not the public deposit-taking corporation as the immediate borrower, assumes the exchange risk. There is potential for double counting if the government and the public deposit-taking corporation report the foreign currency loan as an external public sector debt liability. If the public deposit-taking corporation borrows externally, it is this corporation—not the government—that has the external debt liability. The government has a domestic debt liability in the form of a loan toward the public deposit-taking corporation.¹¹

3. Questionnaires and periodic surveys

6.32 Information collected at the level of the individual debt instrument is preferable but may not always be possible for a variety of reasons. Balance sheet information may either not be suitable or may be unavailable. If so, compilers will have to use **questionnaires** and/or **periodic surveys** to obtain source data for the compilation of public sector debt statistics. Questionnaires may be used to collect source data from extra-budgetary government units, state governments, local governments, and/or some public corporations. Periodic surveys would typically be used when the number of reporting entities is large, such as with local governments.

6.33 In determining the reporting population for a periodic survey covering a large number of entities, such as local governments, various approaches are possible:

⁹SDRs liabilities will be in the central government or central bank's balance sheet, depending on the arrangements in the country. SDRs are discussed in Chapter 3, paragraphs 3.21–3.24, and Chapter 4, paragraphs 4.161–4.165.

¹⁰Examples of the type of disaggregated information that could be collected from a financial corporation's balance sheet are set out in

IMF (2000d), *Monetary and Financial Statistics Manual* (see, for example, Box 7.1, p. 76).

¹¹This claim of the public deposit-taking corporation on government will be eliminated in consolidation when public sector debt statistics cover both these units, thus leaving only the external liability of the public deposit-taking corporation in the statistics.

- **Census:** Including in the survey all members of the population;
- **Partial coverage collection:** Including in the survey all entities above a certain threshold; and
- **Stratified random sample:** A procedure that groups population components according to the size of selected activity so that entities within different strata have different probabilities of selection.

It is important that partial coverage collections or sample surveys are supplemented with a census—at least, every three years.

6.34 The design of the questionnaire or survey form is particularly important because it needs to meet all foreseeable data needs—it is unlikely that the form can be changed very frequently, not least because respondents will develop systems to compile the required information—and incorporate quality-control features (for example, cross-checks on the form itself or with related data collections). However, if the survey form is too complex or detailed, there could be a negative impact on quality as respondents may have difficulty supplying the required information.

6.35 Questionnaires and surveys should cover all debt instruments. If the information on debt instruments is provided on an instrument-by-instrument basis, details collected could include name of lender, residence and type of lender, currency, amount outstanding, start date of contract, due date of contract, scheduled payments of principal, interest payments, put options, and relationship between borrower and lender. Similar information could be required for debt securities, although the identity of the lender may be unknown to the borrower. Although this information is detailed, it should be readily available to the entity for its own accounting purposes and, in some instances, may be public knowledge. Also, if possible, it is preferable to collect data on debt liabilities and financial assets in the form of debt instruments together on the same survey form, to ensure consistency in the calculation of net debt statistics.

6.36 Questionnaires and surveys should include clear reporting instructions to ensure high response rates and high-quality responses. Also, seminars and workshops explaining the reporting requirements for respondents are of value to both respondents and the compiling agency, and are encouraged by this *Guide*.

6.37 There are, at least, three important steps that can be taken to encourage response to the compiling agency:

- There should be legal backing for the surveys, so that as a last resort the compiler has some means of redress if the respondent proves unwilling to report. This legal backing must make clear that any data supplied will be used only for statistical purposes, and this statement must be honored in letter and spirit by the compiling agency. Some respondents may well be reluctant to supply data if they believe their individual data will be shared among other agencies.
- Government departments that have a policy interest in public sector assets and liabilities should be made aware of the reporting needs and encouraged to promote the need for good reporting, whenever possible, when dealing with public corporations. Better data helps promote better-informed policy-making. In other words, the authorities should build the idea of good reporting into their policy objectives in this field. Often, those with policy responsibilities have access to senior officials in public corporations or other levels of government and may deliver the message of good reporting at a more senior level than might be available to the central debt compiling agency.
- The compiling agency, along with other agencies responsible for statistics, should encourage a “culture of reporting.” This is usually achieved in the medium to long term. Steps to encourage a culture of reporting include meeting potential respondents and discussing issues of concern; developing report forms that are in line with management reporting systems and are not overly complex; disseminating and promoting the final output in a transparent manner; and illustrating the usefulness of the final output.

6.38 Even if data are supplied, how can they be confirmed to be reliable? First, if data are supplied in a balance sheet that is part of an audited set of integrated financial statements, this adds a degree of consistency in its own right. Also, if a publicly quoted company supplies data, published accounts from the company are likely to be available against which data can be checked.¹² Second, wherever possible, data should be cross-checked with other sources. For example, transactions data can be

¹²Because accounting standards do differ in some respects from statistical standards, this approach may provide a broad rather than close check.

compared with changes in stock position data if different sources are used. Net borrowing data from revenue and expenditure accounts, or profit and loss accounts of companies, can be compared with the buildup of net financial assets and liabilities because the two are interrelated. Data on revenue in the form of property income could be compared with stock position data to see whether the implied rates of return on assets are realistic. Data on expense in the form of interest and other property expenses should reflect the cost of liabilities.

4. Other sources

6.39 If no information is available from the debt office, balance sheets, or questionnaires and surveys, **other data sources** have to be used. In particular, data could be obtained from sources other than those discussed above for liabilities of (i) public sector employees pension funds managed by a public corporation, (ii) unfunded public sector employees pension schemes, and (iii) provisions for calls under standardized guarantee schemes. For example, debt statistics compilers may request actuarial companies to estimate the liabilities for unfunded government employer pension schemes.¹³ To ensure consistency, it is important that the same sources and methods be applied over time.

6.40 In countries with some form of exchange control, the central bank requires approval or registration of external borrowing. In such cases, the central bank can provide information on external borrowing—particularly in the case of public corporations.

D. Some Data Collection and Compilation Considerations

6.41 While this section may be applied to all debt instruments¹⁴ that form part of public sector debt, it particularly applies to debt securities and loans. The central compiling agency(ies) should capture data on all public sector and publicly guaranteed debt.

I. How should data be collected and compiled?

6.42 To establish a proper debt record, detailed information about debt instruments and related flows

needs to be compiled. For those countries that may not have proper records of debt data, there may be a need to first compile a thorough inventory of existing debt (and metadata) in order to establish the debt stock positions, including any arrears that have accumulated on principal and interest. Once the debt stock position is known, procedures should be put in place to obtain, on a regular basis, information on existing and new borrowing, as well as information on other transactions and other economic flows that affect the debt stock position. There may be a need to establish formalized institutional arrangements for the comprehensive and timely flow of information to the debt office. Table 6.2 lists information that should be collected for each debt instrument. This table is explained in more detail below.

6.43 Data compilation is best undertaken on an instrument-by-instrument basis, tranche by tranche, and in its original currency. For each borrowing instrument, there are basically three types of information that need to be compiled: (1) the core details and terms that will produce the amortization and disbursements tables, as well as the stock position data; (2) details on actual disbursements, as well as the changes in the committed undisbursed amount if, say, there are cancellations and/or increases (for example, with a project loan); and (3) details on actual debt-service transactions. There are other types of information required, and these are described below (under the heading “Additional Data Requirements”).

6.44 If the debt instrument is tradable, additional information will be required in order to attribute ownership by residence. This information may come from a different agency, which is responsible for capturing information on the nonresident ownership of traded securities. Methods of capturing information on nonresident ownership of traded securities are set out in Chapter 7.

a. What are the core details and terms of the borrowing?

6.45 Basic information on each debt instrument should normally be available from the loan or credit agreement or related documentation, a copy of which should be deposited—preferably under legal statute—with the debt office for all public sector or publicly guaranteed debt instruments. Information should include the borrower (debtor), the amount committed, any grace period and the maturity date(s), interest rates (variable or fixed) and any fees that are to be paid, and

¹³See Valuation in Chapter 2 of this *Guide*.

¹⁴The debt instruments are SDRs, currency and deposits, debt securities, loans, insurance, pension, and standardized guarantee schemes, and other accounts payable; see Chapter 3.

the dates for payments of interest and the type of repayment profile of principal (see also paragraph 6.52).

6.46 Where possible, details on the creditor and creditor category (government, central bank, multilateral institution, etc.) and the currency of disbursement and debt service should be maintained. Data on the purpose or the end use of the amount borrowed are also important for analyzing the sectors that have benefited from the borrowing, while the guarantee status of the debt instrument will help assess the risk exposure of the government through the extension of guarantees to other borrowing entities.

6.47 Information on the terms allows the debt office to forecast the debt-service requirements for each debt instrument. In the case of debt securities, information such as the issue price and the yield would need to be captured as well.

b. Disbursements

6.48 The debt office will also need to compile information on disbursements, including actual and expected disbursements. From such information, to the extent possible, accurate projections of debt service can be made. Clearly, actual disbursements affect the total of the undisbursed amounts and, in many cases, the expected future pattern of disbursement. Data on disbursements can usually be obtained from the borrower, including project-implementing agencies and creditors (on an instrument-by-instrument basis or for groups of instruments).

6.49 Because different types of borrowings can be disbursed in various ways, the task of compiling disbursement data can be complex. For example, in the case of project loans, disbursement can take the form of advances to the borrowing entity, direct payment by the lender to suppliers of goods and services, or on the reimbursement basis after the borrower has already paid the suppliers. Under the advances approach, it is the periodic payments by the lender to the borrowing government that constitutes disbursement; under the direct payment approach, it is the moment when the lender pays the supplier (although the debtor may have a trade creditor liability to the supplier when goods are supplied and before the lender pays); and under the reimbursement approach, it is when the reimbursements are made to the borrower (for example, a government). The debt office must keep track of these transactions and reconcile its records at regular intervals with information maintained by the project-implementing agencies.

c. Debt-service payments

6.50 All data on debt-service payments need to be compiled on a regular and timely basis. Information such as principal repayments, interest accrued, interest payments, commitment fees, service fees, and other fees and charges (including penalty fees) will not only allow the debt office to ensure that payments due are made on time, but also enable it to track those debt instruments that are in arrears. Debt-service data are primarily obtained from the terms and conditions of the contract but can also be obtained from statements sent by creditors. For government loans, information can also be provided by those responsible for making the payments, such as the accountant general or the foreign payment department in the central bank. Debt service on public enterprises' debts can be obtained directly from the borrowing entity or through a unit in the ministry of finance, which monitors this category of debt. Data for private debt that is guaranteed by the government can be obtained through a reporting mechanism agreed upon when guarantees are originally issued.

6.51 Where the debt office is at the center of the government's financial administration and public sector control system, the debt office itself orders the payment for budget execution, triggering at the same time the formal accounting procedures within the government for public debt service. This framework, known as an Integrated Financial Management System (IFMS), is frequently implemented in projects financed by the World Bank, or other regional development banks, by way of loans for the modernization of the public sector. This interface with the budget execution is not only an outflow of resources—that is, debt service—but also on an inflow—when a deposit in the treasury accounts is made from the proceeds of a debt instrument. The debt office should alert the budget office and the treasury of the availability of resources.

d. Additional data requirements

i. Exchange rates and interest rates

6.52 Given that debts can be contracted in various currencies, it is important that the debt office collects and maintains information on the relevant exchange rates for all currencies in which borrowing has taken place, and those related to financial derivative contracts in foreign currency. This information should be compiled on a regular basis, including for dates on which transactions have occurred and for

Table 6.2. Information to be Compiled on Each Debt Instrument

Type of Information	Description
I. Details of Borrowing Instrument	
Purpose of borrowing	Descriptive title
Agreement date	Date agreement has been signed
Type of instrument	Type of borrowing instruments
Effective date	Date borrowing becomes effective
Type of borrowing	Whether single currency or multicurrency or multi-tranche
Amount borrowed	Original amount borrowed or revised amount after cancellation or enhancement
Currency of borrowing	Original currency and currencies of disbursement and repayments
Participants:	
• Borrower	Whether government, public corporations, or private sector
• Implementing agency	Agency in charge of implementing project
• Creditor	Name and type of creditor (multilateral, bilateral, etc.)
• Disbursement agency	Name, if different from lender
• Creditor insurer	Name (and country, if nonresident)
Guarantee status	Borrowing by general government units, public corporations, or the private sector guaranteed by government, and percentage guaranteed
Insured	Whether borrowing is insured by export guarantee agency in creditor country and percentage guaranteed
Economic sector	Economic sector receiving the borrowing (for example, general government, public nonfinancial corporations, public financial corporations, etc.)
Use of funds	Whether to finance a project, etc.
II. Disbursements	
Disbursement period	Period during which disbursement is to take place
Method of disbursement	Such as direct disbursement or reimbursement
Expected disbursement pattern/profile	Forecast of how the borrowing will be disbursed
Actual disbursement	Currencies and amount of each disbursement taking place
III. Borrowing Terms	
Interest	Information on interest should include: <ul style="list-style-type: none"> • Interest type: fixed or variable rate • For variable rate: specify interest base/reference and margin/spread • Interest period: dates of payments • Basis for interest calculation (conversion factor: daily, monthly, semiannual, annual, etc.) • Months: actual number of days or 30-day month • Days in interest year (360/365)
Commitment fee	Rate levied on undisbursed (full or partial) amount
Penalty fees	Charges for late payment of interest and principal
Other fees	Such as agency fee, management fee, front-end fee
Principal	Maturity: repayment period/profile Type of repayment: bullet, equal or annuity-based, etc.
IV. Actual Debt-Service Payments	For each payment (of interest, principal, other charges) made: <ul style="list-style-type: none"> • Date, currency, and currency of transaction; amount of transaction in original currency, currency of transaction, domestic currency, and perhaps U.S. dollar and SDR For multicurrency borrowing: equivalent amount paid in borrowing currency
V. Exchange Rate	Exchange rates on each transaction date for relevant currency vis-à-vis the local currency Exchange rates for end of period (daily, weekly, month, quarter, year)
VI. Interest Rates	Prevailing variable interest rates of base/reference rate used by the creditor for each interest period
VII. Debt Restructuring	<ul style="list-style-type: none"> • Changes in terms as a result of debt reorganization, through rescheduling, refinancing (voluntary or involuntary), write-off, etc. • Date required: <ul style="list-style-type: none"> - Debt concerned; arrears, consolidation period - Debt-relief terms (debt forgiveness, reschedule) - Terms for rescheduled debt (applicable interest rate, repayment profile) - Transactions on actual debt-service payments or for rescheduled debt - Other transactions from buy-back or conversion/swap
VIII. Financial Derivatives	<ul style="list-style-type: none"> • Transactions arising from financial derivative contracts • Positions measured both in market value and notional amounts in forwards (including swaps) and options

end-periods (month, quarter, year, and, for certain short-term instruments, perhaps weekly). This is necessary because the disbursements and the debt-service operations should be recorded in the original currency, the currency of transaction (if different from the original one), and the domestic currency. For those instruments bearing variable interest rates, all relevant

rates should be updated for each interest period, thus enabling the debt office to project the debt-service requirements with respect to these instruments. If data on exchange and variable interest rates are to be compiled on a daily basis, it is highly convenient to have a specialized, online computer service to obtain this information.

ii. *Changes in debt instrument amounts and debt restructuring*

6.53 Information on any changes to individual debt instruments such as enhancements or cancellation of the debt liability, or a reorganization of the debt through debt forgiveness, rescheduling, refinancing, conversion, prepayments, or debt assumption should also be compiled.¹⁵ Similarly, information on debt reduction given through discounts on debt buybacks should be maintained. Debt office representation at the loan negotiation processes would help ensure that this kind of information is correctly recorded.

iii. *Data on financial derivatives transactions*

6.54 Although financial derivatives are not debt per se, these instruments have implications for debt management. For those countries where borrowers use financial derivatives to manage their risk exposures, data on transactions arising from these contracts should be compiled and recorded, as well as stock positions on outstanding contracts, in both market value and notional amounts (see Chapter 5 for more details on the dissemination of statistics on financial derivatives). Because financial derivative contracts can result in additional liabilities, their market value needs to be monitored on an ongoing basis. Any direct increase in service costs arising from hedging using financial derivatives (for example, commission expenses) should be registered and included in the public sector unit's expenses.

2. How should information be stored?

6.55 A debt office should store information in an efficient and comprehensive computer-based debt management system (CBDMS) that can undertake a number of tasks and so support both operational and policy functions. Typically, a CBDMS should be able to do¹⁶:

- Debt recording (loan-by-loan);
- Debt reporting (loan-by-loan and on an aggregate basis);
- Debt analysis; and

¹⁵Indeed, a new instrument is being created when a change in the terms of a loan agreement results from a renegotiation (see Chapter 4).

¹⁶For examples of a CBDMS, see the annex to Chapter 10, which describes Commonwealth Secretariat's Debt Recording and Management System (CS-DRMS) and UNCTAD's Debt Management and Financial Analysis System (DMFAS).

- Linkages with other packages and systems of the public sector unit.

3. How should data be validated?

6.56 Data validation is crucial in ensuring the compilation of **reliable** public sector debt statistics which, in turn, are essential for the management and formulation of a country's fiscal and other macroeconomic policies and strategies. For this reason, the *Guide* recommends that procedures be put in place at various stages of the data compilation and recording process to ensure that all data captured are properly validated and reconciled with other data sources. Although data provided to and supplied by the different institutions and departments—both international and domestic—should be checked for mutual consistency, these data may not be identical. But the data validation process should ensure that where differences do exist, the underlying factors for the differences are identified and explained to users of the data.

6.57 Among the various procedures and actions that can support data validation are:

- Verification of data recorded in data entry sheets with data extracted from debt instrument agreements, statements, and other documentation;
- Systems with inbuilt validation procedures to check for inconsistencies at the time of the recording of the information in debt recording and management systems;
- Description of procedures for treating different types of debt and their components, including sources of data in a Debt Procedures Manual—a “how-to” manual that accumulates knowledge and passes on experiences;
- Periodic reconciliation of data obtained from one source with other sources of information—for example, data on debt-service payments can be checked with records kept by the foreign exchange payment department in the central bank; loan balances could also be verified with creditors and debtors on a regular basis; cash flows could be reconciled with bank accounts and with accrual records; and
- An audit mechanism that is consistent with the general rules of public finance control.

Annex: Functions of the Government Debt Office

6.58 Effective debt management by a government involves seven basic functions (Table 6.3): policy, regulatory, resourcing, recording, analytical, controlling, and operating (including active portfolio management). The policy, regulatory, and resourcing functions (known as the executive debt management functions) are undertaken at a very senior level—that is, Board of Ministers, directors, or a subset of it—and as such might be viewed as establishing the “rules of the game” by the highest levels of government. Hence, direction and organization is given to the whole debt management system. Once this framework has been decided upon, it is the government debt office that undertakes the other operating functions, implementing and executing the set of agreed “rules of the game.”

6.59 Policy, regulatory, and resourcing. These functions deal with the formulation of debt management objectives and strategy including the establishment of debt sustainability levels. A strategy may, for instance, impose statutory limits or overall guidelines on how much borrowing can be done by the public sector and/or by the economy as a whole, which in many cases is approved by the parliament. These functions also cover the institutional arrangements that govern the determination, raising, and disbursement of funds, and the related debt service, as well as the application of laws and regulations that govern debt management at the policy and operational levels. The resourcing function ensures that the recording, analytical, controlling, and operating functions pertaining to public debt management are performed by qualified staff and involves recruiting, hiring, motivating, training, and retaining staff. Resourcing should also provide for adequate physical facilities to perform the required tasks.

6.60 Recording, analytical, and operating. The recording function deals with the recording framework for all relevant debt management information and with those activities related to the raising of loans, the budgetary and reserves provision of debt-service payments, and the servicing of debt. The analytical, or statistical, function utilizes the information provided by the recording function. At the aggregate level, the analytical function involves macroeconomic analysis to explore the various options available, given economic and market conditions, and determining the future structure of the public sector debt. The operating function involves negotiation, utilization of loan proceeds, the servicing of debt, as well as active portfolio management. This latter covers the day-to-day active management of the debt portfolio and

takes into account market developments, such as in interest rates and exchange rates, which affect the portfolio in terms of desired performance and risk.

6.61 Controlling. The controlling function comprises monitoring debt-related activities to ensure policy objectives are attained, as well as the coordination of debt management activities. The monitoring function covers the entire range of activities involved in the maintenance of debt statistics and their analysis. This function helps ensure that policy objectives are realized and assists in the determination of debt management policies. This function must ensure, among other things, that the terms of new borrowings fall within the guidelines set by the senior level, that funds are being utilized on time and appropriately, and that repayments are made according to schedule. At the aggregate level, coordination is essential in ensuring that operational debt management is in accordance with executive debt management actions (that is, the policy and regulatory functions performed at the most senior level).

6.62 Organizational structure. The location and organizational structure of a government debt office (typically referred to as a debt management unit) will vary among countries. The differences between developing and developed countries are due to the differences in sources of financing. That is to say that the organizational structure is different if the country is mainly a borrower of funds from bilateral creditors or if the country is issuing bonds in the international financial market.

6.63 For most developing countries, the debt management functions are not assumed by a single office but dispersed across several institutions. A common structure has a debt office in the ministry of finance, focusing on public sector domestic and external debt, with the central bank overseeing private debt, and often taking on the operational functions related to government debt as its financial agent. Ministries of planning and finance and the central bank each make economic forecasts that provide the framework for debt management. A high-level coordinating committee steered by the ministry of finance (or the prime minister’s office or a ministry of economic coordination) takes charge of debt strategy and policy, which should be embodied in the overall macroeconomic targets. In some developed countries, however, an independent government debt office conducts debt operations based on objectives set by the government as part of asset-liability management operations. Ireland, New Zealand, Sweden, and the United Kingdom have set up such structures that delineate separate objectives for debt management and monetary management. No matter what the structure, each country should have a transparent framework for the efficient conduct of all debt office functions.

Table 6.3. Some Recommended Functions of a Debt Office

Functions	Public Sector Debt		Private Sector Debt (depending on economy)
	Domestic	External	
Policy and regulatory	<ul style="list-style-type: none"> Formulating debt-management objectives and strategy Decisions on volume, type of instruments, timing, frequency, and selling techniques Where feasible, development of a benchmark debt structure Communication linkages within government/cabinet/parliament Fixing borrowing ceilings according to budgetary and fiscal policy goals 	<ul style="list-style-type: none"> Institutional arrangements for borrowing, disbursements, and debt service, including laws and regulations as well as policy for public sector guarantees Establish debt sustainability standards Policy framework for contingent liabilities Determine borrowing needs, desired terms, and borrowing resources 	<ul style="list-style-type: none"> Determine the policy relating to private borrowing (external), dependent on nature of exchange regime and capital account of balance of payments liberalization) Establish resources and institutional arrangements for monitoring private sector debt (short- and long-term) Policy framework for contingent liabilities
Recording and operations	<p><i>Primary market</i></p> <ul style="list-style-type: none"> Organize distribution channels and selling procedures Management of debt operations, including auctions, subscriptions, etc. Institutional arrangements for contacts with market <p><i>Secondary market</i></p> <ul style="list-style-type: none"> Active management of government outstanding portfolio Development of debt and liquid markets Institutional arrangements for intervention and contacts with market <p><i>Redemption</i></p> <ul style="list-style-type: none"> For both new and old issues, administration of delivery and redemption of securities <p><i>Recording arrangements</i></p> <ul style="list-style-type: none"> Recording system for debt operations Management of records of debt holders/stock Servicing of government debt and its linkage to budgetary execution Administration of register of government debt instruments 	<ul style="list-style-type: none"> All needed information flows are in place in order to gather the necessary data to cover information needs for operations and decision making Ensure appropriate budgetary provisions are made for debt and debt service contingent liabilities and the planning of reserves for externalization Checking invoices and ensuring debt service paid on due dates Managing disbursements, including claims for reimbursements For commercial market borrower, the whole range of activities pertaining to market participation and penetration 	<ul style="list-style-type: none"> Where government is fully responsible for foreign exchange reserves, perhaps take account of the debt-servicing needs of private sector debt in deciding on the level of foreign reserve
Statistical/analytical	<ul style="list-style-type: none"> Maintain timely and comprehensive data on all borrowing instruments Generate periodic reports 	<ul style="list-style-type: none"> Maintain timely and comprehensive data on loan-by-loan basis (forecast and actual) of commitments, disbursements, debt service, arrears (held for a computerized management system) Generate periodic reports 	<ul style="list-style-type: none"> Maintain timely and comprehensive data (including short-term debt) on a loan-by-loan basis, as practicable, from various sectors such as deposit-taking corporations, other financial corporations, etc. Generate periodic reports
Controlling/monitoring	<ul style="list-style-type: none"> Projecting government borrowing requirements in context of fiscal and monetary targets and sustainable levels of debt Evaluate cost of borrowing (yields) of various instruments Control that the yearly ceilings are respected 	<ul style="list-style-type: none"> Monitor debt indicators and other performance criteria to ensure debt sustainability Undertake analysis of debt portfolio in a macroeconomic framework and International Investment Position (IIP) framework Analyze database for debt restructuring, including rescheduling Undertake analysis for the purpose of risk management, especially exchange risks and other market risks 	<ul style="list-style-type: none"> Monitor debt levels, nonperforming loans, and other liabilities bearing systemic risks Monitor relevant debt indicators and other performance criteria to ensure debt sustainability
Active portfolio investment	<ul style="list-style-type: none"> Active monitoring of risks (interest rate, exchange rate, and counterparty risks) Performance measures using benchmark or other yardsticks 	<ul style="list-style-type: none"> Continuous market analysis Constant innovation 	<ul style="list-style-type: none"> Ensure effective risk management is encouraged Monitor systemic risk through prudent bank supervision Set standards for transparent and reliable corporate disclosure

Identifying the Holders of Traded Debt Securities

This chapter deals with the compilation of public sector debt statistics on traded debt securities, with particular emphasis on the identification of the type and residence of the counterparty to these instruments. It also deals with public sector traded debt securities in the context of the total debt securities market—the “from-whom-to-whom” framework, and provides selected country experiences in this regard.

A. Introduction

7.1 *Traded debt securities are those debt securities traded (or tradable) in organized and other financial markets*—such as bills, bonds, debentures, negotiable certificates of deposits, asset-backed securities, etc.¹ The existence of trading means that there is a secondary market in these instruments, which allows ownership to change hands, potentially many times during the life of the security. In contrast, other debt instruments usually have a relatively fixed relationship between the debtor and the creditor. While securities are always potentially tradable, some have highly liquid secondary markets and others have only infrequent or no secondary sales. The ability to sell the security provides the advantage of flexibility to creditors. For the compiler of debt statistics, this flexibility means that identification of the holder of traded debt securities can be more difficult than for other instruments. While various market institutions maintain records of trade and of current ownership, for instance, to ensure that trades are matched and interest is paid to the owner, these records are often not readily accessible to compilers of statistics.

¹See Chapter 2, paragraphs 2.132–2.134, for the valuation of traded debt securities and Chapter 3, paragraphs 3.28–3.38, for definitions of specific debt securities.

B. Sources of Data on Holders of Public Sector Securities

7.2 Information on the nature of creditors is needed for the analysis of public sector debt. The impact of debt on the economy can differ according to the nature of the creditor. For example, for securities issued by the public sector in domestic currency, those held by the central bank typically represent credit creation; those held by other residents indicate how the public sector accesses some of the supply of domestic funds; those held by nonresidents² have implications for currency markets and future drains on international reserves.

7.3 The following are possible sources of data on the holders of debt securities issued by the public sector:

- From the issuers;
- From the holders;
- From financial market operators (such as custodians, issuing agencies, exchanges, clearing houses, dealers, and registrars); and
- From other statistical sources—data already collected from selected holders, for example, data on holdings of banks, insurance companies, etc.

7.4 To evaluate the alternative sources of data, the compiler should have an understanding of the structure of the market for public sector debt securities. For example:

- Who are the parties involved with the issue and trading of public sector debt securities?
- Does the debt statistics compiler have the legal power or technical capacity to collect data from security holders or security market operators?

²For a detailed discussion of traded debt securities held by nonresidents, see *External Debt Guide*, Chapter 13.

- Is there extensive secondary market trading in securities? Is the initial purchaser in some cases a dealer or bank that on-sells securities to its customers?
- Are security holders registered? If so, is the registration accurate at all times or only at the time of coupon payments or maturity?
- What information is already collected on public sector debt?

7.5 The institutional arrangements for compiling public sector debt statistics are discussed in Chapter 6. While the debtor usually has good data on the total value of securities liabilities and its composition, the information on the current holders needs to be regularly maintained to avoid becoming incomplete or outdated because of secondary market trading. As a result, there may need to be cooperation to obtain data on holders from additional sources. See the annex to this chapter for selected country practices in the identification of the holders of traded debt securities.

I. Data from the issuers

7.6 The issuer usually has a unit that administers the debt securities (debt administrator), at issue, payment of coupons, and at redemption. These procedures usually require identification of the holder. The classifications should identify residents and nonresidents, and the residents should be classified by institutional sector (as defined in Chapter 3, paragraph 3.68).

7.7 The debt compiler will need to have appropriate legal authority and statistical capacity to collect data from the issuers. Central banks and statistical offices usually already have these capacities. Central government debt issuance is probably available from the debt management office or ministry of finance. More problems could arise with regard to data collection from a large number of state and local governments, or from public corporations.

7.8 Nonresident holders may be identified for tax or regulatory reasons. They may also already have been identified for the purposes of balance of payments, international investment position, or external debt statistics. The external component of public sector debt appears in both public sector and external debt statistics. The concepts for valuation and classification of these two sets of statistics are harmonized, and should

be the same. It is important that statistical compilers work together to get consistent data.

7.9 The methods used to classify the holders could be included as a tick-box on the form used for registration of ownership. Alternatively, the classification could be obtained by using a link to a register that has this information, for taxation or statistical purposes. Another possibility is that the debt administrator may be able to classify the holder from the holders' names.

7.10 Compilers of debt statistics need to understand the nature of the administrative processes and the workings of the securities market to understand the strengths and shortcomings of data on holders available from the issuers. For example, the compiler should know if there are extensive secondary markets, or there is very limited trading, or if trading may only occur shortly after issue, and is subsequently minor. (The situation may also vary for different government security issuers, or between money market instruments and long-term bonds.) This information is usually available from the debt office(s) or the securities exchange.

7.11 The situations where the issuer may not be in a position to identify the beneficial owner of their securities:

- **Unregistered secondary market transactions.** For example, there may be good information on initial holders, or holders at time of coupons or redemption, because these are times of payments. However, at other times, secondary market transactions may not be registered with the issuer. In the case of a zero-coupon bond, the absence of payments before redemption may mean that registration of transactions is incomplete.
- **Information relates to the initial purchaser.** If securities are often initially purchased by banks or other dealers, and then on-sold to their customers, information on the initial purchaser would give a misleading picture of actual holders and funding sources.
- **Custodians and nominee accounts.** Another possible problem is that the registered holder may be a financial service provider acting on behalf of the actual holder. For example, securities may be registered as being held by a custodian that is acting on behalf of many customers. Nominee accounts run by banks or other financial market dealers may be another mechanism in which the actual holder is not identified.

- **Off-market transactions.** Even where there is a central securities depository, transactions might not be recorded if the purchaser does not expect to hold the security to the next payment.
- **Securities under a repurchase agreement (repo).** In some countries, high proportions of securities may be held “on repo” (i.e., under a repurchase agreement). In this case, the “legal owner” differs from the “economic owner for statistical purposes.” The registered information will indicate the legal owner, or it is possible that the custodian does not know whether a security is held outright or on repo.

7.12 Because of these shortcomings, data from holders or financial market operators may be used as a supplementary source of information.

2. Data from the holders

7.13 If issuers have incomplete information on holders, direct collection of data from security holders could be considered. A central bank or statistical office that is compiling public sector debt data may have the legal power to collect data from holders, but this is often not the case for debt management offices or ministries of finance. As well, debt management offices or ministries of finance usually do not have the infrastructure or expertise to conduct surveys.

7.14 The public sector debt statistician should try to make use of existing surveys or data collected for other statistical purposes, rather than developing a new statistical collection. As noted in paragraph 7.20, such data have in many cases already been collected for other purposes.

7.15 Information may be collected from large-scale resident holders, such as banks, insurance companies, pension funds, and other investment funds. Such data are usually already obtained from central banks and other deposit-taking corporations as part of monetary and financial statistics. Data may also be collected for other major security holders such as mutual funds, life insurance companies, and pension funds as part of financial statistics or for regulatory purposes. For the holders, public sector securities are likely to be just part of a portfolio of financial assets that may also include securities issued by private sector units and nonresidents.

7.16 Collection of data from nonresidents or households may be more difficult. Nonresident investors

present difficulties in seeking information for legal and practical reasons. It may be difficult to collect data from households, to the extent that there are relatively small holdings of securities dispersed among a large number of households.

7.17 However, to the extent that nonresident and household investors use domestic financial custodians to hold the public sector debt securities issued in the country for safekeeping, those institutions may be a source of information (see paragraph 7.19). Further, if the country uses a security-by-security reporting system for collecting data on security holdings, there is greater possibility to verify the information and provide high levels of detail by different subsectors or particular levels of government (see Box 7.1).

Box 7.1. Security-by-Security Database

A security-by-security (SBS) database is a micro database that stores statistics at an individual debt security level. The main attributes of statistics stored in SBS databases are the international securities identification number (ISIN), name of the issuer, residence of the issuer, sector and subsector, issue date, redemption date, type of security, currency of denomination, issue price, redemption price, outstanding amount or market capitalization, and the coupon payments and dates (see Diagram A3.1 of the *Handbook on Securities Statistics, Part I*).

SBS databases can be linked to securities holdings statistics for resident holders grouped by sector and subsector, as well as for nonresident holders. For that purpose, information provided by respondents on holders is linked at the individual security level to the data stored in the SBS database. The link is often done by using ISIN.

In most cases, data on holders are collected from custodians, as well as centralized securities depositories, on an SBS basis. However, reporting direct from holders is another possibility. There may be a legal obligation in countries for residents to report their securities held in custody abroad. However, there is usually a limited coverage of data directly collected from specific sectors or subsectors like households and nonprofit institutions serving households.

Advantages of an SBS database include the ability to verify data and provide detailed breakdowns.

7.18 At least, any available data from security holders should be used as a check on data from the security issuer. Such checks could identify whether there are potential reporting problems and is good statistical practice for checking consistency between sources. For example, if monetary statistics identify that banks hold-

ings are much less than identified by the issuers, it may give an indication of patterns of holding and reselling securities.

3. Data from financial market operators

7.19 Securities may be held or traded through specialized resident service providers (such as custodians, issuing agencies, exchanges, clearing houses, dealers, and registrars). If so, there may be good information on holders that can be obtained from these sources. However, securities may be held or traded through non-resident service providers (particularly those issued in foreign currency) or held directly. Custodians or dealers may also be unaware of the economic ownership in cases of securities under repo or held by nominees. For a discussion of reporting through custodians, see the *Coordinated Portfolio Investment Survey (CPIS) Guide*. Obtaining information from these sources would require legal authorization and data collection expertise of a kind usually found in statistical offices and central banks, but relatively rarely in debt management offices or ministries of finance.

4. Data from other statistical sources

7.20 Data on components of traded public sector debt securities are also usually available in other statistics. The possible sources include monetary and financial statistics, external debt statistics and the international investment position, and financial market data. In the case of monetary statistics, these data show holdings of securities by banks and other deposit-taking corporations. These data should be compatible because of the use of harmonized institutional sector classification between the different datasets. These data could be used to fill gaps or as an independent check on other data. If financial sector and nonresident holdings are identified, then holdings of general government, nonfinancial corporations, and households can be derived as a residual. In the case of external debt and international investment position statistics, debt held by nonresidents in the form of debt securities is an important component. Data may be collected as a result of exchange regulations, as part of an international transactions reporting system, or from another data collection.

7.21 The valuation basis used by each of these sources should be verified, for example, holdings of public sector securities are recorded in monetary and financial statistics at market values. The detail of classification should also be verified. For example, the standard *MFSM 2000*

balance sheet shows security holdings split by central bank, central government, state and local governments, and public nonfinancial issuers, but does not separately identify public financial corporations.

7.22 To make full use of the available data, there needs to be cooperation and communication between the agencies involved in compiling various economic and financial datasets. Otherwise potentially useful information may not be utilized, while at worst, respondents could end up reporting essentially the same information to two different statistical agencies. As well, there will be questions from users and/or lack of credibility in the data if public sector debt statistics differ from the equivalent values recorded in other statistics.

C. Statistics on Traded Securities in the Context of the Total Debt Securities Market

7.23 Statistics on holders of public sector securities allow analysis of public sector debt in its own right. A wider analysis would be to use the national accounting framework, which allows public sector borrowers to be put in the context of other borrowers and holdings of public sector securities in the context of holdings of all securities.

7.24 The remainder of this chapter summarizes the conceptual framework for compiling data on debt security holdings, as explained the *2008 SNA* and in more detail in the *Handbook on Securities Statistics, Part 2*. The framework shows the “flow of funds” or “from-whom-to-whom.” This approach puts debt for each sector in the context of total debt, and thus shows the role of the public sector (and other sectors) in total financial flows and stocks. Public sector debt statistics compilers should be aware of the wider framework in undertaking their work to help ensure compatibility between the various datasets and provide guidance to users of the statistics.

I. A from-whom-to-whom framework for debt securities

7.25 Table 7.1 is the stylized presentation of the from-whom-to-whom framework and shows the holdings of resident institutional units, by sector, and the holdings of nonresidents vis-à-vis resident issuers. The table reflects the relationships between resident sectors, as holders, as well as residents and nonresidents as issuers, and between nonresidents as holders and residents as issuers of debt.

Table 7.1. Stylized Presentation of the From-Whom-to-Whom Approach

Issuer by residence and resident sector (liabilities)		Holder by residence and resident sector (financial assets)				Nonresidents	Residence of issuer
		Nonfinancial corporations ¹	Financial corporations ¹	General government	Households and nonprofit institutions serving households		
Residents	Nonfinancial corporations ¹						
	Financial corporations ¹						
	General government						
	Households and nonprofit institutions serving households ²						
Nonresidents							
All issuers							
		Residence of holder					

¹Financial and nonfinancial corporations can each be broken down into private and public, so as to identify the public sector components.

²Households and nonprofit institutions serving households may be legally entitled to issue debt securities. In the case of households, debt securities can be issued to finance dwelling purchases.

7.26 For a national economy, the from-whom-to-whom framework can be used to present stock positions, transactions, revaluations, and other changes in the volume of assets.³ These data are grouped into sectors (nonfinancial corporations, financial corporations, general government, and households and nonprofit institutions serving households) and nonresidents. For residents, intrasectoral stock positions are indicated by the diagonal shaded cells in Table 7.1.⁴ This table shows the main institutional sectors of the *System of National Accounts*, so public corporations would need to be identified separately within the financial and nonfinancial sectors to show the components of the public sector.

7.27 Holdings of debt securities by nonresidents (vis-à-vis resident sectors as issuers) are shown as positions in the rest of the world balance sheet (i.e., the international investment position), as financial transactions in the rest of the world financial account (part of the balance of payments), and as revaluations or other changes in the volume of assets in the other rest of the world accumulation accounts (cells shaded with verti-

cal lines in Table 7.1).⁵ Holdings by nonresidents of debt securities issued by nonresidents are not covered (dark shaded cell in Table 7.1) because such holdings are not relevant from a national economy's perspective.

7.28 A from-whom-to-whom framework for debt securities shows who is financing whom, what amount and by which type of debt security. Using this framework, the holdings of debt securities issued by public sector entities, by resident sectors, and by nonresidents can be viewed together.

7.29 Table 7.2 is the same as Table 7.1, with the addition of data for a total of all residents, illustrating a presentation of stock positions in debt securities in a from whom-to-whom framework with a numerical example.⁶ Table 7.2 shows, for instance, that:

- In the fourth column, households and nonprofit institutions serving households hold debt securities of 275, which is reflected in their claims on nonfinancial corporations (65), financial corporations (43), general government (124), and the rest of the world (43).
- Nonfinancial corporations issued debt securities of 147, as reflected in the first row. Their liabilities in the form of debt securities to other nonfinancial

³Box 5.1 in the *Handbook on Securities Statistics, Part 2*, shows the detailed recording of debt securities following the debtor/creditor principle.

⁴The *Handbook on Securities Statistics* recommends that these statistics be compiled on an unconsolidated basis, i.e., not eliminating these intrasectoral stock positions and flows. This *Guide* recommends eliminating intrasectoral stock positions and flows among public sector units for which statistics are compiled.

⁵Additional breakdowns of nonresidents by country or institutional sector may be considered.

⁶Similar tables can be compiled for transactions, revaluations, and other changes in the volume of assets. The content of these tables can also be presented in time series format rather than a matrix format.

Table 7.2. From-Whom-to-Whom Stock Positions in Debt Securities

Issuer by residence and resident sector (liabilities)		Residents					Nonresidents	All holders
		Nonfinancial corporations ¹	Financial corporations ¹	General government	Households and nonprofit institutions serving households	All residents		
Residents	Nonfinancial corporations ¹	30	23	5	65	123	24	147
	Financial corporations ¹	11	22	2	43	78	28	106
	General government	67	25	6	124	222	54	276
	Households and nonprofit institutions serving households	—	—	—	—	—	—	—
	All residents	108	70	13	232	423	106	529
Nonresidents		34	12	19	43	108	—	—
All issuers		142	82	32	275	531	—	—

¹Financial and nonfinancial corporations can each be broken down into private and public, so as to identify the public sector components.

corporations are 30, to financial corporations are 23, to general government are 5, to households and nonprofit institutions serving households are 65, and to the rest of the world are 24. Conversely, no debt securities were issued by households and nonprofit institutions serving households (fourth row).

- In the nonresidents row, debt securities held by residents and issued by nonresidents are 108.
- In the nonresidents column, debt securities held by nonresidents and issued by residents are 106.
- Total debt securities held by residents (vis-à-vis resident and nonresident issuers) (531) and held by

nonresidents (vis-à-vis resident issuers) (106) are equal to total debt securities issued by residents (vis-à-vis resident and nonresident holders) (529) and debt securities issued by nonresidents (vis-à-vis resident holders) (108).

7.30 Intrasectoral stock positions of resident sectors in debt securities are shown in the dark shaded cells. For instance, nonfinancial corporations issued debt securities of 30 that are being held by other institutional units in the same sector. As mentioned in footnote 4, these intrasectoral transactions are not covered when the statistics are presented on a consolidated basis.

Annex: Selected Country Practices in Identifying Holders of Traded Debt Securities

This annex summarizes the practices of Brazil, Canada, South Africa, and Turkey in identifying the holders of traded debt securities.

I. Brazil

a. Central government (domestic debt)

7.31 The data on the holders of traded debt securities are collected from the Special System for Settlement and Custody (Selic), the central depository of government securities, which is operated by Brazilian Central Bank (BCB) and stores 98 percent of the domestic federal debt and from CETIP-OTC Clearing House, which stores the remaining 2 percent. Selic's structure of accounts was designed with the concern to identify the nature of the securities' holders. The securities are registered in individual or omnibus accounts. For the **central government domestic debt**, there are omnibus accounts in Selic. The owner of omnibus accounts is a group of clients of a Selic participant. It is possible to classify these accounts by the type of holder (individuals, nonfinancial corporations, financial corporations, mutual funds, other funds), but it is not possible to identify the owners themselves. Only the Selic participant that holds the account knows who the clients in the omnibus account are. In very specific situations, the Central Bank can contact the participant to obtain more detailed information. Some special studies about counterparts and short positions are also sent to National Treasury in order to support the federal public sector debt management.

7.32 A report, with a broad series of data on federal public external and domestic debt, is released monthly by the National Treasury, including information on holders of government bonds. The report is available less than a month after the information closing date.

7.33 The public sector debt statistics compilers are aware of the wider framework to help ensure compatibility. In the Brazilian case, the National Treasury receives from the Central Bank monthly information "from-whom-to-whom" in a customized framework, which includes a breakdown by nonresidents, closed and open pension funds, and insurance companies, cross-classified by the main groups of bonds and their maturities, which guarantees a more efficient analysis for the debt manager.

b. State and local governments

7.34 As at 2010, there are no debt securities issued by state and local governments.

2. Canada

a. Overview

7.35 Canada's data on asset holders of public sector debt securities are put together within an integrated framework, the Canadian System of National Accounts of Statistics Canada. Aggregate detail is compiled by sector in the quarterly *National Balance Sheet Accounts* (NBSA). The latter includes the quarterly *International Investment Position* (IIP) as the nonresident sector, for which securities databases are instrumental in assembling portfolio transactions and positions. The NBSA primarily relies on quarterly enterprise surveys of industries, quarterly surveys of pension funds and other investment schemes, as well as information provided by the various levels of government.

7.36 Raw survey balance sheet data by asset liability type (including government debt securities' detail) are collected and assembled from a number of sources that correspond to the institutional sectors in the NBSA. The estimates are then analyzed in the balance sheet accounts supply (debt)/disposition (asset) matrix, for which security holdings can be organized by market⁷ (for example, federal government bonds). In addition, quarterly nonresident sector transactions data from balance of payments statistics (including secondary market trading) are confronted with the estimates of flow of funds asset-liability transactions in the institutional sectors of the economy. A similar process is followed for stocks, with the quarterly estimates of the IIP and NBSA.

7.37 A more comprehensive data confrontation process takes place on an annual basis. The survey-based asset data in the macroeconomic balance sheet account for the institutional sectors data are confronted annually with the Canadian (security-by-security) Coordinated Portfolio Investment Survey, which in the case of Canada covers both resident and nonresident holdings, for a large number of institutional investors.

⁷This is essentially a to-whom-from-whom framework for debt securities, by type of security.

b. Sources by type of holder

7.38 Corporations: The data on corporate holdings of securities are collected quarterly from business enterprise surveys for nonfinancial and financial corporations in substantial industry/institutional sector detail, including government enterprises. In addition, there is a separate survey on pension funds. Market value data are either collected or calculated. Other sources of data are referenced on an annual basis as part of the data confrontation process. One example of this is the Canadian (security-by-security) Coordinated Portfolio Investment Survey which covers both resident and nonresident holdings for a large number of institutional investors.

7.39 Government: Data on government holdings for public federal and provincial governments are taken from the annual Public Accounts as well as quarterly reports and surveys. In particular, these cover investment funds that are prevalent in some provinces as well as social security funds. For local levels of government there are two quarterly surveys covering municipalities and local school authorities.

7.40 Households: Data on persons and unincorporated businesses holdings, which are relatively quite small, are derived largely from a residual process in the quarterly accounts. However certain significant items, such as government savings bonds, are derived as government liability counterpart entries. In addition, there are periodic benchmark data available from household asset-debt surveys (last survey conducted in 2005).

7.41 Nonresidents: Data on nonresident holdings of Canadian securities are collected from monthly, quarterly, and annual surveys. For holdings of public debt securities (short- and long-term instruments) by nonresidents, an extensive and detailed system is used to process this information. Each Canadian issuer is identified by name, sector (for example, federal, provincial, and municipal governments and their business enterprises) and industrial classification; each security held abroad is listed with the dates of issue and of maturity, the currency of issue, the interest rate, the timing of payments of interest, and so on. Because the system is extensive in terms of the details processed, it is used to derive a number of variables such as positions and flows (new issues, trading in outstanding, and retirements) as well as interest. The system maintains four prices for Canadian bonds: issue price, maturity price, book value, and market price at period-end. Detailed information on new issues of public debt securities is captured, whether they

are initially placed in the domestic or foreign markets. Thereafter, a monthly detailed survey of transactions between residents and nonresidents enables the generation of foreign holdings of public debt instruments on a monthly basis, by country of holder. Annual benchmark surveys are also used to confront year-end positions generated by the use of the monthly transactions survey. When a bond reaches maturity, the system automatically generates a transaction and foreign holdings would be adjusted accordingly. In addition, annual benchmark survey information also provides information on early retirements (bonds retired prior to the original maturity). The early redemption is captured in the detailed system and holdings are again adjusted to account for this type of transaction.

c. Special cases

7.42 Repos: Canadian government securities are heavily used as collateral in the repurchase agreement market. Repurchase agreements (repos), using bonds as collateral, are treated as loans (lending/borrowing) and not transactions in securities.

7.43 Beneficial owner: Statistics Canada's institutional unit of interest in the case of holders of public debt securities is the beneficial owner of financial assets. Custodians frequently reply to the surveys on behalf of their clients and provide identification of the beneficial owners.

7.44 Nominee accounts: Statistics Canada is presently investigating the possibility of obtaining information from banks and other financial market intermediaries on holdings in their nominee accounts. This project is under development.

3. South Africa

a. Bond market

7.45 All transactions are traded and settled electronically and kept in safe custody at Strate (Share Transactions Totally Electronic Ltd—a company owned by the four largest commercial banks and the Johannesburg Stock Exchange).

7.46 The central government bond register is kept at the National Treasury and shows the beneficial ownership records of all central government bonds. The records include holdings registered in own name and in the name of Strate. About 99 percent of all central government bonds are registered in the name of Strate.

Data on holders of debt instruments are available from Strate and provided to the issuers on request, in the case of the National Treasury monthly.

7.47 The ownership distribution of domestic marketable bonds is published in the quarterly bulletins of the South African Reserve Bank.

7.48 Reporting on beneficial ownership holders is categorized in different sectors such as pension funds, foreign investors, insurers, banks, individuals, unit trusts, etc. Initiatives are under way to provide electronic records on holdings in the bond market at beneficial ownership level.

b. Money market

7.49 In February 2010, the money market migrated to Strate's Money Market Settlement System (MMSS) which is "dematerialized" (i.e., electronic). Since late February 2010, new Treasury bills issuances are issued, cleared, and settled electronically. Beneficial ownership is recorded and updated in Strate's Securities Ownership Register (SOR). Ownership information is provided weekly to the National Treasury. All secondary trading in Treasury bills' is done via the MMSS, recorded in the SOR. Strate can supply all the necessary details in this regard as they are obliged to record owners detail on all Treasury bills trades according to ISIN numbers issued. Negotiations between the National Treasury and Strate will determine the format in which to receive the beneficial ownership of Treasury bills.

4. Turkey

a. Government domestic debt instruments

7.50 Sources that are considered to come up with the total amount of domestic debt instruments issued by the Undersecretariat of Treasury (UT) are:

- Total amount of government securities in the Electronic Securities Transfer and Settlement System operating in the Central Bank of the Republic of Turkey which shows the security-by-security information recorded in each bank's name (including the portfolio of their customers) without any breakdown of holders;

- Istanbul Stock Exchange Settlement and Custody Bank Inc. accounts which show the amount of securities allocated to several mutual funds;
- The amount of securities in the Central Bank's portfolio; and
- The amounts of securities which are owned by some government funds, Saving Deposit Insurance Fund, etc.

7.51 For the detailed statistics on government domestic debt instruments owned by the resident nonbank sector and nonresidents, the Central Bank collects weekly data from 40 commercial banks and 84 intermediary institutions. They report securities in their portfolio as well as in custody accounts of residents and nonresidents with further details of the holder such as a person, banks, and other legal entities. The data also includes nominal and market values. Resident nonbank sector and nonresidents data are disseminated according to the holders in the Central Bank Web site based on banks' and intermediary institutions' reports.

b. Government debt securities issued in foreign markets

7.52 Data on securities issued by the UT in foreign markets (called Eurobonds in Turkey) are also derived from the weekly reporting forms collected from banks and intermediary institutions as mentioned above. These institutions report the amount of securities held in their custody accounts for residents and nonresidents as well as in their portfolio. This amount is deducted from the total Eurobond stock to reach the residual amount reflecting nonresidents' Eurobond holdings.

c. Banking sector holdings

7.53 All securities (issued domestically and abroad) held by the banking sector are also disseminated on the Central Bank's website in the money and banking statistics framework without any breakdown by domestic debt or Eurobonds.

Consolidation of Public Sector Debt Statistics

This chapter defines consolidation and then discusses specific related issues. Practical guidance is given for the consolidation of public sector debt statistics.

A. Introduction

“Consolidation is an imperfect science” (A Manual on Government Finance Statistics, 1986).

8.1 The *Government Finance Statistics Manual (GFSM)* calls for the compilation of consolidated general government and public sector statistics (including debt statistics).¹ Consolidation is an important and last step in the process of compiling government finance statistics and debt statistics according to international standards.² As discussed later in this chapter, a distinction should be made between aggregated and consolidated statistics. When compiling consolidated public sector debt or other public sector statistics, practicality should be kept in mind: the resources devoted to consolidation and the level of detail applied in consolidation, should be in direct proportion to their numeric importance.

¹Consolidation is not always a feature of macroeconomic or other statistics. For example, while recognizing the usefulness of consolidated data for fiscal analysis, the *2008 SNA* does not recommend the consolidation of entries in the national accounts statistics; national accounts data are a simple summation of entries of all resident institutional units belonging to a sector (sectoral aggregates) or to the economic territory (economy-wide aggregates). Similarly, for residents, the *Handbook on Securities Statistics* recommends the presentation of data on debt security holdings on an unconsolidated basis.

²Four main stages can be distinguished in this process: (i) specifying the institutional coverage and sectorization, (ii) selecting data sources, (iii) identifying adjustments needed to source data to comply with *GFSM* methodology and developing bridge tables (i.e., the preparation stage), and (iv) compiling the statistics based on (i) to (iii). The fourth stage consists of two distinct tasks: (i) the classification and derivation of statistics, and (ii) the consolidation of statistics.

8.2 This chapter first discusses general conceptual issues relating to consolidation, including the effects of consolidation on aggregates and balancing items, and the reasons for compiling consolidated statistics. The last part of this chapter discusses specific issues in the consolidation of public sector debt statistics. It provides practical guidelines on what should be consolidated, and shows how to consolidate public sector debt statistics.

B. What Is Consolidation?

I. Definitions

8.3 According to the *GFSM*, *consolidation is a method of presenting statistics for a set of units (or entities) as if they constituted a single unit*. A consolidated set of accounts for a unit, or group of units, is produced by, first, an aggregation of all flows and stock positions within an agreed analytical framework, followed by the elimination, in principle, of all flows and stock positions that represent relationships among the units or entities being consolidated.³

8.4 When compiling public sector statistics, two types of consolidation—which are discussed in detail later in this chapter—may be necessary:

- *Intrasectoral consolidation, which is consolidation within a particular subsector to produce consolidated statistics for that particular subsector* (for example, within the central government

³The consolidation process should not be confused with net debt. For example, suppose the statistics for two units (A and B) are consolidated (subsector C), and the net debt for unit A, unit B, and the consolidated unit C are calculated. Consolidation involves eliminating the reciprocal debt liabilities and financial assets in the form of debt liabilities **between** A and B. In calculating the net debt of unit A, the gross debt of A minus the financial assets of **the same** unit A in the form of debt instruments equals unit A's net debt. The net debt of units B and consolidated unit C are calculated in the same manner.

subsector or within public nonfinancial corporations subsector); and

- **Intersectoral consolidation, which is consolidation between subsectors of the public sector to produce consolidated statistics for a particular grouping of public sector units** (for example, between central, state, and local governments, or between general government and public nonfinancial corporations).

2. Aggregated vs. consolidated statistics

8.5 It is important to distinguish between aggregated statistics and consolidated statistics. When debt statistics (or other statistics) for separate public sector units/entities are added and reciprocal stock positions (or flows) exist but are not eliminated, these statistics are called **aggregated statistics**, not consolidated statistics (for example, aggregated general government debt statistics or aggregated nonfinancial public sector debt statistics).

8.6 Technically, the process of consolidation follows the horizontal aggregation⁴ of statistics, and it is only after the consolidation process that **consolidated statistics** are produced (for example, consolidated general government debt statistics or consolidated nonfinancial public sector debt statistics). The labels “aggregated statistics” and “consolidated statistics” mean the same only if there are no reciprocal stock positions (or flows) among the units for which the statistics are compiled. For public sector statistics, this would be extremely unlikely.

C. What Are the Effects of Consolidation?

8.7 By eliminating all reciprocal stock positions and flows among the units being consolidated, consolidation has the effect of only measuring flows or

stocks of the consolidated unit(s) vis-à-vis units outside the boundary. Consolidation will not reflect the economic interaction within the grouping of institutional units, but only those flows or stocks that involve interactions with all other institutional units in the economy (or rest of the world).

8.8 Consolidation avoids double-counting of transactions or stock positions among a grouping of institutional units, thus producing statistics that exclude these internal transactions or stock positions. It is this avoidance of double-counting that produces the increased analytical usefulness of consolidated statistics in cases where it makes sense to view the consolidated group as acting if it were a single entity.

8.9 As illustrated in Box 8.1, in principle, consolidation does not affect the *GFSM* balancing items (for example, the net operating balance, net lending (+) / net borrowing (–), net worth, or net debt). In other words, the balancing items produced by simple aggregation (aggregated statistics) are the same as those produced by consolidated statistics. This is the result of the symmetry of the consolidation process, wherein the two sides of the consolidation adjustment always fall within the same broad section of the *GFSM* analytical framework.⁵

8.10 When consolidated data produce different balancing items from the unconsolidated (aggregated) data, this suggests that errors have been made; consolidation adjustments must be symmetrical, both in principle and in practice.⁶

⁴Horizontal aggregation is the process of adding together data for institutional units/entities, subsectors, or sectors within an analytical framework. For example, in *GFSM*, the debt statistics of the budgetary central government, extrabudgetary central government, and social security funds are added (horizontally) to produce aggregates for the “unconsolidated central government.” On the other hand, vertical aggregation of data refers to aggregation of flows or stocks within the accounts for an individual institutional unit, subsector, or sector, and produces “aggregates” that have a specific meaning within an analytic framework. For example, in *GFSM*, debt instruments for a specific institutional unit are added together (vertically) to produce the aggregate “gross debt” for that institutional unit. Balancing items (for example, the net operating balance, net worth, or net debt) are calculated as the difference between aggregates.

⁵A principal, underlying accounting rule in macroeconomic statistical systems is that transactions take place simultaneously for both transactors, and the transaction should be identically valued by both transactors. These rules imply quadruple-entry accounting, that is, each unit will have a debit and credit entry, and these entries should all be of the same value. In addition, both parties should classify the transaction (or stock) in the same way. Variations from these standards give rise to many of the practical problems in consolidation of both transactions and balance sheet positions. Differences in timing and valuation, as well as accounting discrepancies, may cause asymmetry between consolidation amounts. Normally, the more reliable number is used for both sides of the transaction or stock position. Discrepancies from asymmetric recording should always be analyzed and resolved to improve consolidation and the overall quality of the data compilation process.

⁶In *A Manual on Government Finance Statistics, 1986*, there was one major instance in which this symmetry was not observed. Loans for policy purposes by central government to local government(s) were classified “above-the-line” for central government as lending minus repayments (a deficit/surplus determining item), while the local government classified them “below-the-line” as financing. As such, consolidating the central government and local government in *A Manual on Government Finance Statistics, 1986*, resulted in overall deficit/surplus and financing data that were different from when the transactions were simply aggregated. This asymmetry has been removed in the *GFSM* framework by classifying all transactions in financial assets and liabilities within the same account.

Box 8.1. Numerical Example to Illustrate the Effect of Consolidation on Balancing Items

The following example illustrates that consolidation has no effect on the *GFSM* balancing items, including net debt, the balancing item for debt statistics. The example shows the Statement of Operations, Balance Sheet, and Debt Statistics for the general government sector and public corporations. The statistics for these two sectors are aggregated and then consolidated to produce the consolidated public sector. In the example, it is assumed that the only intrasectoral transaction and stock position is a loan of 400 from the general government to a public corporation. While the balancing items of the “aggregated public sector” and “consolidated public sector” are the same, the transactions and stock positions in financial assets and liabilities (and debt) would be smaller under consolidation than under aggregation.

Statement of Operations (for the period)

	General government	Public corporations	Aggregated public sector	Consolidation	Consolidated public sector
	[1]	[2]	[3] = [1] + [2]	[4]	[5] = [3] + [4]
Revenue	1,200	500	1,700	0	1,700
Expense	1,500	400	1,900	0	1,900
Net operating balance	-300	100	-200	0	-200
Net acquisition of nonfinancial assets	250	350	600	0	600
Net lending (+) / net borrowing (-)	-550	-250	-800	0	-800
Net acquisition of financial assets	450	600	1,050	-400	650
of which: Loan to public corporation	400	0	400	-400	0
Net incurrence of liabilities	1,000	850	1,850	-400	1,450
of which: Loan from government	0	400	400	-400	0

Balance Sheet (as at the end of the period)

	General government	Public corporations	Aggregated public sector	Consolidation	Consolidated public sector
	[1]	[2]	[3] = [1] + [2]	[4]	[5] = [3] + [4]
Net worth	6,500	5,800	12,300	0	12,300
Nonfinancial assets	10,300	5,000	15,300	0	15,300
Net financial worth	-3,800	800	-3,000	0	-3,000
Financial assets	8,600	4,700	13,300	-400	12,900
of which: Loan to public corporation	400	0	400	-400	0
Liabilities	12,400	3,900	16,300	-400	15,900
of which: Loan from government	0	400	400	-400	0

Debt Statistics (as at the end of the period)

	General government	Public corporations	Aggregated public sector	Consolidation	Consolidated public sector
	[1]	[2]	[3] = [1] + [2]	[4]	[5] = [3] + [4]
Net debt	4,300	-400	-3,900	0	-3,900
Financial assets corresponding to debt instruments	7,300	3,300	10,600	-400	10,200
of which: Loan to public corporation	400	0	400	-400	0
Liabilities in the form of debt instruments (gross debt)	11,600	2,900	14,500	-400	13,900
of which: Loan from government	0	400	400	-400	0

D. Why Consolidate Government Finance and Public Sector Debt Statistics?

8.11 Government finance statistics have always been presented on a consolidated basis.⁷ The reasons why general government statistics should be consolidated are discussed in detail in the paper *Consolidation of the General Government Sector*.⁸ In summary, that paper concludes that the main reason for consolidation lies in the analytical usefulness of the consolidated statistics: Consolidation eliminates the distorting effects on aggregates of differing administrative arrangements across countries. The main impact of consolidation on the statistics is on the magnitude of the aggregates. To relate government aggregates to the economy as a whole (for example, revenue, expense, or debt to GDP ratios), it is better to eliminate the internal churning of funds and include only those flows and stock positions that actually cross the boundaries with other sectors or nonresidents.

8.12 The same arguments apply to why public corporations and public sector statistics should be consolidated; to correct for the distorting effects on the magnitudes caused by the internal flows of funds and stock positions, and thereby including only those flows or stock positions that actually cross the boundaries with other sectors of the economy or nonresidents.

8.13 However, because the main analytical use for consolidated statistics is in the magnitude of the aggregates that are compiled, it may be prudent to determine the extent of internal flows and stock positions before committing substantial resources to the consolidation exercise. In practice, the general guideline to be followed is that resources should be allocated to identifying consolidation items in direct proportion to their numeric importance (see also paragraph 8.17).

E. Consolidation of Public Sector Debt Statistics

8.14 This section deals with the consolidation of public sector debt statistics. While the discussion focuses on liabilities that are debt instruments, it must be kept

in mind that each of these debt liabilities are financial assets (claims) in the accounts of the counterparty to the instrument (the creditor). This information is particularly relevant for the consolidation process.

8.15 The following liabilities are debt instruments (see Chapter 2, paragraph 2.3):

- Special drawing rights (SDRs);
- Currency and deposits;
- Debt securities;
- Loans;
- Insurance, pension, and standardized guarantee schemes; and
- Other accounts payable.

8.16 After outlining what should be consolidated, some guidelines and rules of thumb are given for application in practice.

I. What should be consolidated?

a. Conceptual guidelines

8.17 Conceptually, the consolidation of debt statistics entails the elimination of all flows and all debtor-creditor relationships among the units or entities that are combined. Proper consolidation requires a review of the accounts to be consolidated to identify internal stock positions (and flows). The goal is not necessarily perfect consolidation, but rather to eliminate, in a consistent manner, stock positions (and flows) **that will have a significant effect** on the final aggregates. Where a review of the accounts reveals small stock positions or flows that may be difficult to identify, resources should not be devoted to identifying these stock positions, or flows, and their magnitudes.

8.18 Two types of consolidation may be needed when compiling consolidated public sector debt statistics: intrasectoral and intersectoral consolidation. Intrasectoral consolidation is always done before intersectoral consolidation. Based on the typical components and sectorization of the public sector,⁹ Table 8.1 indicates for which of these public sector units intra- and intersectoral consolidation may be needed.

8.19 In principle, SDRs are the only debt instrument that does not involve any consolidation when compiling public sector debt statistics. This is because

⁷Consolidation is not always a feature of macroeconomic or other statistics. See footnote 1 in this chapter.

⁸*GFSSM 2001 Companion Material, Consolidation of the General Government Sector*, by Kevin O'Connor (IMF Expert), Ethan Weisman and Tobias Wickens, November 2004, IMF, Washington, DC. (<http://www.imf.org/external/pubs/ft/gfs/manual/comp.htm>)

⁹See Chapter 2 for details.

Table 8.1. Intra- and Intersectoral Consolidation of Public Sector Debt Statistics

Public sector units	Intrasectoral consolidation	Intersectoral consolidation
General government sector		X
Central government	X	
Budgetary central government	X	
Extrabudgetary central government	X	
Social security funds	X	
State government	X	
Local government	X	
Public corporations:		
Public nonfinancial corporations	X	
Nonfinancial public sector		X
Public financial corporations	X	
Public sector		X

the counterparty (creditor) to the SDR debt liability is the rest of the world (collectively, participants in the IMF's SDR Department).

8.20 For both types of consolidation, the following major transactions, other economic flows, and stock positions, in likely order of importance, should be eliminated for debt statistics covering any part of, or the entire public sector:

- Loans;
- Debt securities; and
- Other accounts payable.

8.21 In addition to the above debt instruments, for debt statistics that include public financial corporations, the following major transactions, other economic flows, and stock positions, should be eliminated—in principle—in both intra- and intersectoral consolidation:

- Currency and deposits; and
- Insurance, pension, and standardized guarantee schemes.

b. Consolidation of sinking funds

8.22 The definition and sectorization of sinking funds are discussed in Chapter 2, paragraphs 2.73–2.76, of this *Guide*. Sinking funds should be included in public sector debt statistics to provide a complete picture of the public sector's financial position. Stock positions and flows of sinking funds controlled by public sector units should be eliminated in intra- or intersectoral consolidation, as appropriate, with those of other public sector units for which statistics are compiled:

- **For sinking funds that are not institutional units:** The stock positions and flows of the sinking fund are combined with those of the parent unit. Any stock positions and flows between the sinking fund and the parent unit should be eliminated in intrasectoral consolidation because such sinking funds are part of the unit that controls them. For example, the stock positions and flows of a sinking fund that is not an institutional unit and controlled by the budgetary central government should be combined with the stocks and flows of the budgetary central government, with the appropriate consolidation of stock positions and flows between them.
- **For sinking funds that are separate institutional units operating on a nonmarket basis (i.e., government units):** Stock positions and flows between the sinking fund and the parent unit are eliminated in **intersectoral consolidation** when data are compiled for a group of public sector units that include the sinking fund. These sinking funds would be classified as extrabudgetary units of the unit that controls them. For example, when compiling consolidated central government GFS or debt statistics, a sinking fund that is controlled by the budgetary central government would be consolidated with the stock positions and flows of other central government units.
- **For sinking funds that are separate institutional units operating on a market basis (i.e., public financial corporations):** Stock positions and flows between the sinking fund and the parent unit are eliminated in **intersectoral consolidation** when data are compiled for a group of public sector units that include the sinking fund.

8.23 When combining the statistics of the parent unit and a sinking fund, the consolidated total should represent only the consolidated unit's stock positions and flows with the rest of the public sector, economy,

or world. In doing so, the following stock positions and flows are eliminated:

- Transactions and other economic flows between the parent unit and the sinking fund, including the parent unit's contributions to the sinking fund for the redemption of debt; and
- Stock positions between the parent unit and the sinking fund, including holdings of "parent" government debt.

8.24 Sinking fund payments to units outside the group of units included in the statistics (for example, to the private sector or to nonresidents) are shown as:

- The redemption of debt liabilities of the parent unit because these liabilities are recorded on the balance sheet of the parent unit (it is for this reason that it is important to include sinking funds in the statistics); or
- The acquisition of financial assets for the sinking fund if the sinking fund is a separate institutional unit. If the sinking fund is not a separate unit, the acquisition of financial assets by the sinking fund is recorded on the balance sheet of the parent unit.

8.25 When calculating gross debt of the sinking fund, and the sinking fund is a separate institutional unit, its holdings of financial assets should not be offset against its own liabilities. However, financial assets of sinking funds' that are institutional units are included in the calculation of their own net debt. The same calculations apply to the gross and net debt of the parent unit. When combining the statistics of the sinking fund that is a separate institutional unit, and the parent unit, gross and net debt for the combined unit are calculated after appropriate consolidation of intra- and/or intersectoral stock positions.

2. Practical guidelines

8.26 In the preceding sections, the focus was largely on the conceptual issues relating to consolidation and identifying stock positions (and flows) where consolidation may be necessary. All stock positions (and flows) to be consolidated should be identified in the accounting codes for stock positions (and flows) in the general government accounts, with the counterparty of the stock position (or flow) clearly identified. Source data on public corporations exist separately from the government accounting codes and charts of accounts. As advocated in Chapter 6, these data on public corporations' activities should be reported regularly to the government finance statistics or public sector statis-

tics compilers. Ideally, in the public sector debt statistics compilation system, public sector accounting data should be linked (bridged) to the *GFSM* classification codes and the items to be eliminated in consolidation should be clearly identified.

a. Priorities in consolidation

8.27 Practicality should be kept in mind when consolidated public sector debt statistics are compiled, and the decision about the level of detail employed in consolidation should be based on the:

- Analytical and/or policy usefulness of the consolidated data; and
- Relative importance of the various types of stocks positions.

8.28 Unless significant and identifiable, this *Guide* does not recommended intra- or intersectoral consolidation of "other accounts payable" (or receivable) when compiling consolidated debt statistics for the public sector or any subsector thereof. In practice, it will most likely not be possible to eliminate intra- and intersectoral stock positions in "other accounts payable" (or receivable) because of a lack of detail. Also, in practice, it would be difficult—if not impossible—to allocate insurance technical reserves to specific policy holders.¹⁰ Stock positions between government and pension funds classified as public financial corporations are either considered to be between households (government employees) and the pension funds, or will likely be insignificant. It is also unlikely that there will be a need for consolidation of standardized guarantee schemes among public sector units.

8.29 Thus, for debt statistics covering any part of, or the entire, public sector, it is recommended that priority be given to identifying the following potential areas of intra- and intersectoral consolidation of stock positions (and flows)¹¹: **loans, debt securities, and currency and deposits.**¹²

8.30 Often, discrepancies exist between data for two units that are being consolidated. In principle, when a transaction or stock position to be consolidated is identified (for example, a loan from the central government to a public nonfinancial corporation), it is expected that

¹⁰Insurance technical reserves are liabilities of the public financial corporations and financial assets for the policyholders.

¹¹These refer to debt instruments as well as their corresponding financial assets in the accounts of the creditor.

¹²Consolidation of currency and deposits is particularly important when public financial corporations are included in the statistics.

the corresponding records will be found in the accounts of the counterparty (in this case, the public nonfinancial corporation). However, when the public nonfinancial corporation's accounts are reviewed, there may be no record of this loan, or the loan may be credited in a different period, or the loan receivable may have a different value from the loan payable, or it may be classified as something other than a loan. There are many reasons for such discrepancies, some of which are discussed in detail in papers on the consolidation of general government and nonfinancial public sector statistics, respectively.¹³ Resolving these discrepancies will promote proper consolidation and improve the overall quality of the data.

b. Rules of thumb

8.31 Some practical rules of thumb can be helpful to determine: (i) if there are stock positions to be consolidated; (ii) whether or not to measure them based on their magnitude and cost of collection; and (iii) which unit may be considered to have the most reliable records. Circumstances in each country vary, and the rules that are chosen must be based on country-specific circumstances. Suggestions for general rules of thumb and the sequence for analysis are¹⁴:

- Begin all consolidation exercises with an analysis of the accounts involved to determine if there are stock positions internal to the unit(s) to be consolidated. This will depend on knowledge of the relationships among the units involved. Do some units extend loans to other units? Do they buy debt securities issued by others? Do they have currency and deposits held by others?
 - Once these relationships are established, compilers must determine whether the intra- and/or intersectoral stock positions can be measured or estimated, and whether the amounts will be significant in terms of analytical importance.
 - If the amounts are likely to be significant, are they large enough to justify the effort to collect the data and other information for consolidation purposes? (The effort and cost to identify an amount to be consolidated should be directly proportional to the expected amount and its impact on the aggregates.)
- The “one-side” rule of thumb is commonly used. If there is convincing evidence from one of the transactors that a stock position exists in the balance sheet, it should be imputed to the other side, even in the absence of the counterpart records. When such an adjustment is made in the data for a unit where the stock positions cannot be directly identified, it will be necessary to ensure that the records for that unit are properly modified.
 - For stock positions (and flows) in financial assets and liabilities (including debt liabilities), normally the creditor can be expected to maintain the most reliable records. For loans, the creditor unit usually maintains the most complete records, but, with the international emphasis on proper debt recording, the debtor unit may be equally reliable. For debt securities, especially bearer instruments, only the creditor may have the information needed for consolidation. For example, when a central government issues bearer securities, some of which are acquired by public corporations, the central government may have no direct information on who is holding the securities, especially if they can be acquired on secondary markets.¹⁵ It is, therefore, necessary to rely on the creditor records of the public corporations.

3. How to consolidate?

8.32 In applying the principle of consolidation to public sector debt statistics, compilers will combine the statistics for a group of units or entities and then subtract intra- and/or intersectoral stock positions among the units being combined. In the IMF's statistical database, this subtraction is achieved by entering consolidation amounts as negative numbers. The consolidated set of statistics is produced by summing all the individual

¹³*GFSM 2001 Companion Material, Consolidation of the General Government Sector*, and *GFSM 2001 Companion Material, Nonfinancial Public Sector Statistics—Consolidation*, by Tobias Wickens, October 2008, IMF, Washington, DC. (<http://www.imf.org/external/pubs/ft/gfs/manual/comp.htm>)

¹⁴Successful consolidation will depend on the accuracy achieved in the preparation and derivation of the public sector debt statistics.

¹⁵Existing public sector debt instruments acquired on secondary markets should not be consolidated in transactions data, if these transactions take place with nonpublic sector units. However, these acquisitions should be consolidated in balance sheet or debt statistics. In cases where public sector units issue negotiable securities that trade in secondary markets, the debtor-creditor relationship between the public sector and the holder of the security may change during the life of the security. For example, a central government bond may be sold originally to a bank. This transaction creates public sector (and central government) debt. Then subsequently the central government bond may be sold by the bank to a public nonfinancial corporation. This transaction reduces public sector debt as in the public sector balance sheet (and debt statistics) public nonfinancial corporations' holdings of central government debt liabilities would be eliminated in the consolidation. However, the transaction does not reduce central government debt because the transaction occurs between two parties that are outside of the central government subsector.

Table 8.2. Numerical Example Illustrating How to Consolidate Public Sector Debt Statistics (Intersectoral Consolidation)

	Public sector														
	Nonfinancial public sector														
	General government sector														
	Central government subsector														
	Budgetary central government	Extra-budgetary central government	Social security funds	Consolidation 1	Consolidated central government subsector	State government	Local government	Consolidation 2	Consolidated general government sector	Public nonfinancial corporations	Consolidation 3	Consolidated nonfinancial public sector	Public financial corporations	Consolidation 4	Consolidated public sector
	1	2	3	4	5=1+2+3+4	6	7	8	9=5+6+7+8	10	11	12=9+10+11	13	14	15=12+13+14
Net debt	3,852	-135	-846	0	2,871	2,270	2,262	0	7,403	1,980	0	9,383	5,935	0	15,318
Financial assets corresponding to debt instruments	7,640	748	3,473	-1,520	10,341	3,544	4,241	-2,451	15,675	10,699	-1,949	24,425	38,173	-32,374	30,224
Monetary gold	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Special drawing rights (SDRs)	0	0	0	0	0	0	0	0	0	0	0	0	591	0	591
Currency and deposits	3,177	600	1,312	0	5,089	2,200	1,605	0	8,894	5,555	0	14,449	11,146	-18,737	6,858
Debt securities	0	49	1,998	-1,300	747	0	0	0	747	875	-309	1,313	7,054	-6,523	1,844
Loans	2,776	0	0	-220	2,556	355	543	-2,451	1,003	1,449	-1,640	812	15,061	-7,114	8,759
Insurance, pension, and standardized guarantee schemes	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other accounts receivable	1,687	99	163	0	1,949	989	2,093	0	5,031	2,820	0	7,851	4,321	0	12,172
Liabilities in the form of debt instruments (gross debt)	11,492	613	2,627	-1,520	13,212	5,814	6,503	-2,451	23,078	12,679	-1,949	33,808	44,108	-32,374	45,542
Special drawing rights (SDRs)	0	0	0	0	0	0	0	0	0	0	0	0	591	0	591
Currency and deposits	0	0	0	0	0	0	0	0	0	0	0	0	20,959	-18,737	2,222
Debt securities	7,650	0	0	-1,300	6,350	0	1,737	0	8,087	4,876	-309	12,654	9,898	-6,523	16,029
Loans	1,232	490	210	-220	1,712	4,424	2,890	-2,451	6,575	5,178	-1,640	10,113	2,500	-7,114	5,499
Insurance, pension, and standardized guarantee schemes	0	0	2,350	0	2,350	0	0	0	2,350	0	0	2,350	6,500	0	8,850
Other accounts payable	2,610	123	67	0	2,800	1,390	1,876	0	6,066	2,625	0	8,691	3,660	0	12,351

components' data and the (negative) consolidation amounts. This principle is illustrated in the examples shown in Table 8.2. This example:

- Assumes that all main subsectors of the public sector exist;
- Excludes intrasectoral consolidation, for simplicity, and only shows the stock positions to be consolidated at each level of intersectoral consolidation;
- Assumes the following debtor-creditor relationships:
 - Social security funds hold 1,300 currency units of debt securities issued by the budgetary central government;
 - Budgetary central government provided loans to extrabudgetary funds (220 currency units), to state and local governments (2,451 currency units), and to public nonfinancial corporations (1,640 currency units);
- Social security funds hold 309 currency units of debt securities issued by public nonfinancial corporations;
- All public sector units have currency and deposits at public financial corporations (18,737 currency units);
- Public financial corporations hold debt securities issued by the budgetary central government and public financial corporations (6,523 currency units); and
- Public financial corporations provided loans to all public sector units (7,114 currency units).

Some Tools for Public Sector Debt Analysis

This chapter presents some specific analytical tools that are used to analyze public sector debt statistics in three areas: (i) debt sustainability analysis (DSA), (ii) portfolio analysis, and (iii) fiscal risk and vulnerability analysis.

A. Introduction

9.1 Significant work is underway in the statistics and accounting professions to add considerations of sustainability to measurements of public sector debt. Although the adoption of standards in this area is likely to take some time, some applications are gradually becoming broadly accepted. This chapter provides an introduction to debt sustainability analysis, portfolio analysis, and fiscal risk and vulnerability analysis—which are at different stages of definition and development.¹ These forms of analysis use debt statistics in an attempt to answer various “what if” questions related to sustainability and vulnerability.

B. Debt Sustainability Analysis

9.2 The objective of debt sustainability analysis (DSA) is to evaluate a country’s **capacity to finance its policy agenda and service the ensuing debt without unduly large adjustments** that may compromise its macroeconomic stability and/or that of its economic partners (see Box 9.1). As part of the IMF’s efforts to better detect, prevent, and resolve potential crises, a formal framework for conducting public sector and external debt sustainability analyses was introduced in 2002.² The framework aims to bring greater accuracy, effectiveness, discipline, and transparency to DSAs.

¹These approaches are used for purposes of IMF surveillance and use of Fund resources.

²See IMF 2003.

Box 9.1. Definition of debt sustainability

Debt is sustainable when a borrower is expected to be able to continue servicing its debts without an unrealistically large correction to its income and expenditure balance. Debt sustainability, thus, reflects a country’s solvency, liquidity, and adjustment capacity:

- A government is **solvent** if the present value (PV) of its current and future primary expenditure (net of interest) is no greater than the PV³ of its current and future stream of income receipts.
- A government is **liquid** if it is able to rollover its maturing debt obligations in an orderly manner.
- Debt sustainability also captures the notion that there are social and political **limits to adjustments** in spending and revenue that determine a country’s willingness (as opposed to its economic ability) to pay.

1. The debt sustainability analysis (DSA) framework

9.3 The DSA framework consists of **two complementary assessments of the sustainability of (i) total public sector debt and (ii) total external (i.e., public and private) debt.** It focuses on gross rather than net debt, to facilitate comparability of information across countries—since data on asset positions are usually not available on a consistent and/or timely basis. For both

³A common way to represent the solvency condition is through the government’s inter-temporal budget constraint, which is the ability of the general government to meet the costs of servicing its debt through future revenues, measured at present value (PV):

$$D_{t_0} - \sum_{t=t_0+1}^{\infty} \frac{PB_t}{(1+r)^{t-t_0}} = 0$$

where D_{t_0} is gross debt as a share of GDP in the year before the long-term projections, PB_t is the structural primary balance (revenue minus expenditure excluding net interest expense) as a share of GDP at time t , and r is the differential between the nominal interest rate and the nominal GDP growth rate.

public sector debt and external debt, the assessment is made by comparing the path of debt indicators in a baseline scenario and in a series of sensitivity tests. The **baseline scenario** is based on a set of macroeconomic projections that articulate the government's intended policies. The framework requires an explicit specification of the main assumptions and parameters underlying the baseline scenario and the **stress tests**. The paths of debt indicators in the baseline and the stress tests permit an assessment of the **vulnerability of the country to shocks**.

9.4 The objective of the assessment is threefold:

- Assess the current debt situation, including the outstanding stock position, its maturity structure, the fixed or variable interest rate composition, currency composition, and by debt holder;

Box 9.2. Assessing debt sustainability

Debt sustainability can be assessed on the basis of different debt and debt-service indicators relative to measures of repayment capacity. Repayment capacity can be measured in terms of GDP, export proceeds, or fiscal revenue:

- GDP ratios allows the indicators to be adjusted by the size of the economy;
- Export ratios indicate whether the country can be expected to generate sufficient foreign exchange to meet its external debt obligations in the future;
- Revenue ratios measure the government's ability to mobilize domestic resources to reimburse debt.

The most relevant measure of repayment capacity depends on the constraints that are the most binding for a specific country. Ratios of debt stock relative to repayment capacity measures indicate the burden represented by the future obligations of a country and thus reflect long-term risks to solvency, while the time path of debt-service ratios indicates the likelihood and possible timing of liquidity problems.

While debt sustainability ratios are generally based on the nominal value of debt, for countries with access to concessional finance, the present value (PV) of debt provides a better measure of the burden of future debt-service payments.

The design of appropriate borrowing strategies also needs to take into account country-specific circumstances. A country's capacity to absorb new financing productively and eventually to repay its debt depends on a variety of elements, many of them of a structural nature. They include the savings propensity of the private sector; the degree of financial development of the economy; productivity growth; the government's ability to expand the tax base, raise tax rates, and compress public spending; and demographic developments.

- Identify vulnerabilities in the debt structure or the policy framework so that policy corrections can be introduced before payment difficulties arise; and
- In cases where such difficulties have emerged, or are about to emerge, examine the impact of alternative debt-stabilizing policy paths.

9.5 DSA results should not be interpreted in a mechanistic or rigid fashion, but should be assessed against relevant country characteristics, including the country's policy track record and policy space. For instance, a certain path for the primary balance (which has critical implications for the trajectory of debt ratios) might be politically difficult to sustain in one country but not in another country. The degree of exposure to various market risks (for example, interest rate risk or rollover risk) is also a critical consideration in assessing debt sustainability (see Box 9.2). Thus, DSAs provide valuable inputs for macroeconomic policy design but cannot, in isolation, determine an optimal borrowing path.

2. The debt sustainability analysis (DSA) framework for low-income countries

9.6 The DSA framework described above is more suitable for countries other than low-income countries⁴ (LICs). LICs differ in that their development needs are large relative to their resource envelope; they rely to an important extent on external aid; they have a higher susceptibility to external and domestic shocks and more uncertain returns on public investments; narrow production and export bases, often concentrated in a limited number of primary commodities, for which prices are determined in world markets; and a tendency to weaker policies and institutions, including in project implementation and debt management.

9.7 To ensure these characteristics are adequately taken into account in DSAs, the World Bank and IMF jointly introduced a **debt sustainability framework for low-income countries (DSF⁵)** in 2005. The DSF modifies the general framework for debt sustainability analysis described above to reflect low-income countries' circumstances. For instance, it uses a 20-year projection horizon as opposed to the five-year period applicable in DSAs for other countries, reflecting the longer maturity of LICs debt. Also, debt indicators for

⁴As defined by the World Bank.

⁵An appropriate acronym would probably be DSF LIC or LIC DSF. However, in practice the shorter acronym DSF is widely used for the debt sustainability analysis framework for low-income countries.

LICs are expressed in present value terms because their debt is predominantly concessional. Finally, for LICs, the DSA framework is extended to include an explicit rating of the risk of external debt distress. Usually, a large component of external debt is public sector debt.

9.8 The DSF is mainly a tool to **help policymakers strike a balance between achieving development objectives and maintaining debt sustainability.** It guides the design of policies that help prevent the emergence, or reemergence, of debt distress in low-income countries.⁶ It is built on three pillars:

- A standardized forward-looking analysis of public sector and external debt and its vulnerability to shocks (baseline scenario, alternative scenarios, and standardized stress test scenarios are computed);
- A debt sustainability assessment, including an explicit rating of the risk of external debt distress; and
- Recommendations for a borrowing (and lending) strategy that limits the risk of debt distress.

9.9 Under the DSF, countries are classified into **three policy performance groups:** strong, medium, and weak (see Table 9.1).⁷ Different indicative thresholds are used for debt burdens depending on the performance category. Thresholds corresponding to the strongest policy performers are the highest, indicating that in countries with good policies debt accumulation is less risky.

9.10 Currently, ratings are compiled only for external debt distress. While it is possible to compile similar ratios for public sector debt, there are no generally accepted thresholds for the risk of total public sector debt distress. In part, this is due to the conceptual differences between external and domestic debt. However, the DSF also takes into account the risk posed by the accumulation of domestic debt and acknowledges the different nature of these risks.⁸

Table 9.1. External Debt Burden Thresholds under the Debt Sustainability Framework (DSF)

	Present value (PV) of debt in percent of			Debt service in percent of	
	Exports	GDP	Revenue	Exports	Revenue
Weak policy	100	30	200	15	25
Medium policy	150	40	250	20	30
Strong policy	200	50	300	25	35

9.11 The risk of external debt distress is assessed by comparing external debt burden indicators with indicative policy-dependent debt burden thresholds.⁹ The thresholds reflect the empirical findings that the external debt levels that LICs can sustain are influenced by the quality of their policies and institutions,¹⁰ which are measured by the Country Policy and Institutional Assessment (CPIA) index, compiled annually by the World Bank.

9.12 There are four ratings of external debt distress in the DSF¹¹:

- **Low risk:** all debt burden indicators are well below the thresholds.
- **Moderate risk:** debt burden indicators are below the thresholds in the baseline scenario, but stress tests indicate that the thresholds are breached if there are external shocks or abrupt changes in macroeconomic policies.
- **High risk:** one or more debt burden indicators breach the thresholds under the baseline scenario.
- **Debt distress:** the country is already having repayment difficulties.

9.13 Since its inception in 2005, the DSF has become an effective tool for debt sustainability analysis in LICs. Many donors, lenders, and borrowers use the DSF actively to determine the amount and types of financing that are consistent with long-term public sector or external debt sustainability and progress toward achiev-

⁶The objectives of the DSF differ from those of DSAs carried out under the Heavily Indebted Poor Countries (HIPC) Initiative in that the latter focus on the reduction of an existing debt burden to sustainable levels.

⁷The World Bank's Country Policy and Institutional Assessment (CPIA) index is used.

⁸See IMF and IDA 2006b.

⁹For SDRs, only net debt interest obligations—that is, when SDR holdings are less than cumulative allocations—are captured in the DSA.

¹⁰See Kraay and Nehru 2006, IMF and IDA, 2004a, 2004b, 2004c, 2005, and 2008.

¹¹See IMF and IDA 2008.

ing development objectives. The DSF also helps other lenders coordinate and implement sustainable lending policies. For example, the OECD Working Party on Export Credits and Guarantees agreed in January 2008 on a set of principles and guidelines for sustainable lending to LICs.¹²

9.14 The DSF enhances access, quality, comparability, and timeliness of information on the debt situation of LICs. LIC DSAs are published annually on the external Web sites of the IMF and the World Bank.¹³ Regular updates of the DSAs allow stakeholders to base their decisions on the most recent developments and help detect and monitor emerging vulnerabilities at an early stage. Since late 2009, the design of debt limits in IMF-supported programs relies extensively on the results of DSAs. More specifically, countries with lower debt vulnerabilities (according to the DSA) have more flexibility in setting their borrowing strategies, including with regard to nonconcessional borrowing.

9.15 The effectiveness of the DSF depends on its adaptability and its broad use. The IMF and the World Bank are continuously monitoring the evolving pattern in LIC financing, adapting the elements of the framework as appropriate to meet new challenges. For example, the DSF takes into account the impact of public sector investment on growth and the role of remittances as a source of external financing, and adopts a flexible approach in the treatment of the external debt of public corporations.¹⁴

C. Portfolio Analysis and Medium-Term Debt Strategy (MTDS)

9.16 The MTDS, designed by the World Bank and the IMF, provides a **framework for developing an effective public sector debt management strategy**—that is, to achieve a desired composition of the public sector debt portfolio that reflects a cost-risk analysis and captures the government’s preferences with regard to the cost-risk trade-off. It is a tool for evaluating and managing the risk involved in different debt compositions; facilitating coordination with fiscal and monetary management; and enhancing transparency. It

operationalizes country authorities’ debt management objectives—for example, ensuring the government’s financing needs and payment obligations are met at the lowest possible cost consistent with a prudent degree of risk. The MTDS framework underscores the need for sound public sector debt management data.¹⁵

9.17 Developing effective medium-term debt management strategies requires a number of important interlinkages to be recognized (see Figure 9.1). Ideally, the medium-term debt strategy should be embedded in an overall framework that includes:

- debt sustainability analysis;
- considerations of the wider economic framework;
- a cost-risk analysis of the various financing strategies available;
- an annual borrowing plan to operationalize the strategy in the immediate budgetary period; and
- market development plans.

9.18 To determine the appropriate debt management strategy, the performance of alternative strategies should be evaluated in terms of their impact on costs and risks (see Box 9.3 and Figure 9.1). The cost of following each strategy should be assessed under a baseline scenario for key macroeconomic and market variables, and under various risk scenarios. For the choice of strategy and associated future borrowing decisions to be robust, it is crucial that the risk scenarios are appropriately identified and reflect a sound understanding of the macro framework. For example, it would be important to have the correct understanding of how the interaction between nominal interest and exchange rates and inflation affects key ratios, such as Interest/GDP or Present Value Debt/GDP.

9.19 Data needs for specification of an MTDS are relatively demanding. Countries should have in place a robust debt recording system to provide an accurate, consistent and comprehensive database of domestic, external and guaranteed debt of the government. A good debt recording system would readily provide the following:¹⁶

- An accurate breakdown of the outstanding nominal debt by various characteristics, including currency composition, creditor composition, original

¹²See OECD 2008.

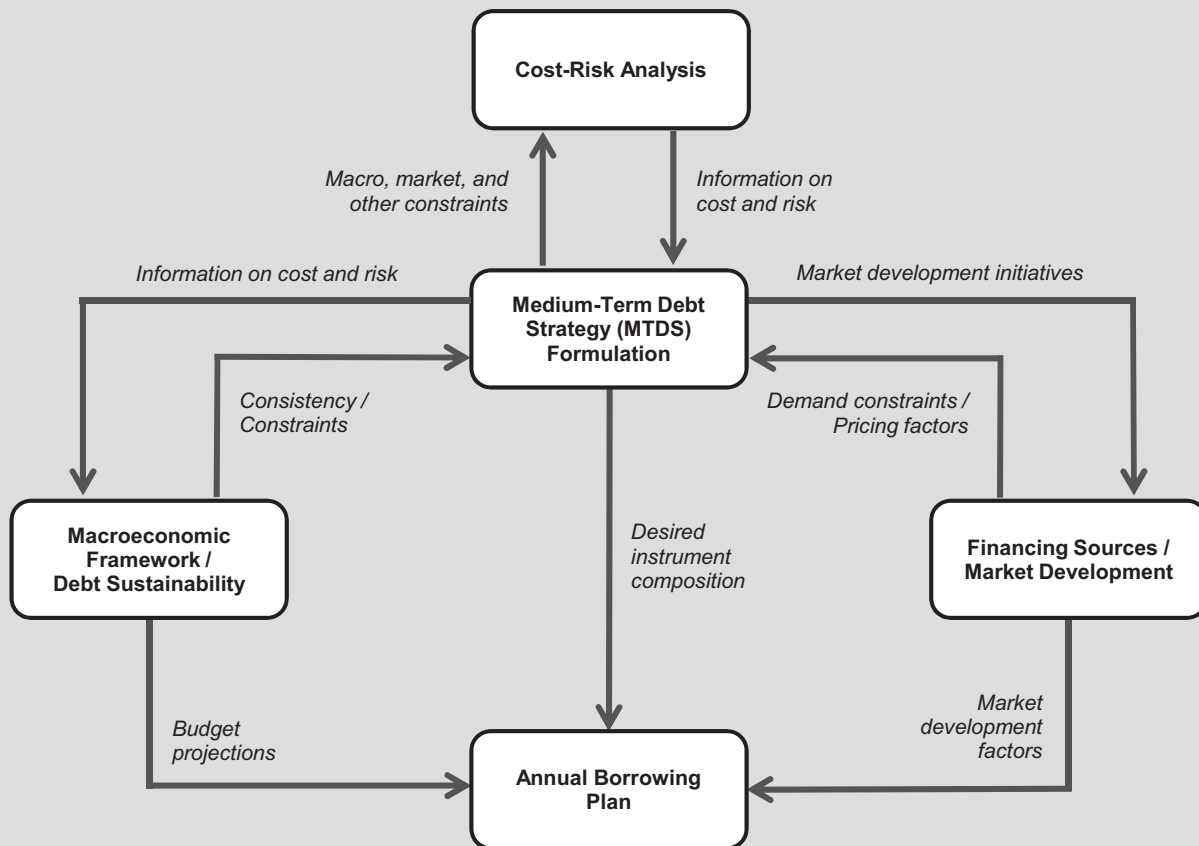
¹³See <http://www.imf.org/external/pubs/ft/dsa/lic.aspx> and <http://www.worldbank.org/debt>.

¹⁴See relevant documents at: <http://www.imf.org/external/pubs/ft/dsa/lic.aspx>.

¹⁵The framework was adopted by the Boards of the IMF and World Bank in March 2009; it is described in “*Developing a Medium-term Debt Management Strategy (MTDS): Guidance Note for Country Authorities*.”

¹⁶See also Chapter 10 of this *Guide*.

Figure 9.1. Interlinkages to be Recognized in Developing Effective Medium-Term Debt Management Strategies



The medium-term debt strategy (MTDS) involves an eight step process:

1. Identify the objectives for public sector debt management and scope of the MTDS.
2. Identify the current debt management strategy and analyze cost and risk of the existing debt.
3. Identify and analyze potential funding sources, including cost and risk characteristics.
4. Identify baseline projections and risks in key policy areas—fiscal, monetary, external, and market.
5. Review key longer term structural factors.
6. Identify the cost-risk trade-offs, and assess and rank alternative strategies.
7. Review implications of candidate debt management strategies with fiscal and monetary policy authorities, and for market conditions.
8. Submit and secure agreement on the MTDS.

Box 9.3. Assessing cost-risk trade-offs

Specification of a medium-term debt strategy (MTDS) requires detailed analysis of cost and risk in the debt portfolio. For this, the debt manager should identify clear and relevant definitions of both cost and risk. Key measures of cost are the following:

- Interest cost—key for budget preparation;
- Interest/GDP or Interest/Revenues (with interest adjusted for the capitalization and indexation effects)—captures the economic burden of debt; and
- Present value of Debt/GDP (or Debt/GDP, if the debt is nonconcessional) also captures the extent of the debt burden.

Key portfolio risk measures relevant for debt managers are described in “*Developing a Medium-term Debt Management Strategy: Guidance Note for Country Authorities*,” IMF and World Bank (March 2009).

To assess the cost-risk trade-off, the focus is typically on market risk (i.e. the exposure to shifts in interest and exchange rates), where risk is measured as the potential for the cost to deviate from its expected outcome. However, effective debt management means managing a spectrum of risks that also include refinancing/rollover, and operational risk. For example, the materialization of refinancing (or rollover) risk—that is, the risk that debt will have to be rolled over at unusually high cost, or, in extreme cases, cannot be rolled over at all, can lead to exceptionally large increases in government funding costs, or to inability to refinance loans coming due. This risk can be aggravated by excessive reliance on certain creditors or market segments for financing, or by the choice of exchange rate regime. For example, under a fixed exchange rate regime rollover risk is much more important as the exchange rate cannot adjust to market conditions.

and remaining maturity, type of concessionality, and instrument composition (including by interest rate type).

- Repayment and interest payment schedules aggregated across various categories of debt.
- Some basic portfolio indicators, such as average time to maturity,¹⁷ average time to refixing,¹⁸ pro-

¹⁷The average time to maturity measures the weighted average time to maturity of all the principal payments in the portfolio. It shows how long it takes on average to rollover the debt portfolio. A shortening of this indicator suggests that the portfolio is being rolled over more frequently therefore is more exposed to refinancing shocks.

¹⁸The average time to refixing is a measure of weighted average time until all the principal payments in the debt portfolio become subject to a new interest rate. For zero-coupon bonds and bonds with fixed coupons, it corresponds to the residual life of the bond.

portion of foreign currency debt, share of debt with variable interest rates, etc.

- Payment schedules for interest and amortization of individual loans and securities, along with the associated payment notices.

9.20 Ideally, the system would interface with other key systems including (i) the payments system used to make debt servicing payments; (ii) the transaction management system (where relevant); (iii) the auction system (if separate from the transaction management system); and (iv) the government’s financial management information and accounting system(s).

D. Fiscal Risk and Vulnerability

9.21 The fiscal risks that contribute to vulnerability of the public finances go beyond those that can be captured in the portfolio analysis framework described above. *At the most general level, fiscal risks may be defined as any potential differences between actual and expected fiscal outcomes* (for example, fiscal balances and public sector debt). Such deviations can occur, for instance, because budgets are based on assumptions that, in the end, may not materialize, or because operations were initially conducted off-budget.

9.22 Sources of risk include unforeseen shocks to macroeconomic variables (economic growth, commodity prices, interest rates, or exchange rates) as well as calls on several types of contingent liabilities (i.e., obligations triggered by an uncertain event). These contingent liabilities may be explicit (i.e., defined by law or contract, for example, debt guarantees) or implicit (i.e., moral or expected obligations for the government, based on public expectations or pressures, for example, bailouts of banks or public sector entities). Implicit contingent liabilities include potential fiscal costs from banking crises and natural disasters, covering public corporations or local government losses, or calls on guarantees, notably in the case of public-private partnerships (PPPs), and long-term future obligations for social security benefits.

For floating rate notes, it corresponds to the time until the next coupon is refixed. As an average measure, this indicator provides information over time of the changes in the portfolio’s average time to refixing. A shortening of this indicator suggests that the portfolio is, on average, facing a new interest rate more frequently and therefore is more exposed to refixing shocks.

I. The statement of fiscal risks

9.23 As a first step toward comprehensive fiscal risk analysis and management, the IMF recommends the preparation and publication of a **Statement of Fiscal Risks**, to be submitted to the legislature as part of the annual budget.¹⁹ A main function of this statement is to provide a framework for understanding and managing contingent liabilities and, more generally, to help governments decide how much risk to take on.

9.24 The Statement of Fiscal Risks should include a comprehensive enumeration of the risks facing government, together with a probability or other evaluation of each risk's materializing—to the extent that such information exists and its disclosure does not create moral hazard. Such a statement is of necessity open-ended and partly qualitative (rather than purely statistical), since varying amounts of information are available on the different kinds of risks.

9.25 Even mere identification of fiscal risks will contribute to more informed risk-management decisions and will promote earlier and smoother policy responses (for example, offsetting measures can be identified in advance).

9.26 Although risks may be adequately identified in the absence of disclosure, a commitment to making information on fiscal risks publicly available subjects the evaluation of the risks to additional scrutiny. A transparent disclosure policy should strengthen the accuracy and coverage of information on risks.

2. Fiscal risk analysis

9.27 An evaluation of fiscal risks is an input to helping governments define a strategy for managing whatever debt (and other liabilities and assets) they have chosen to hold and for deciding which should be part of a long-term portfolio and which should be disposed of.²⁰ While fiscal risks may be analyzed individually, different risks may partially offset each other or may occur under different circumstances.

9.28 To get a sense of the overall risk to public sector solvency, it is important to conduct an assessment covering the different risks at the same time. This should be done by **analyzing alternative scenarios**. Like DSAs, these should include the implications of

changes in macroeconomic variables, but they should also explore the implications of assumptions regarding: the probability of occurrence of various contingent liabilities; and prices and recovery rates of financial assets on the government's balance sheet.

9.29 Compilation of accurate public sector statistics is a crucial step in conducting such an assessment:

- The **institutional coverage** of statistics used to assess fiscal risks should be as broad as possible, so as to encompass all activities with potential implications for the public finances (including quasi-fiscal activities). The statistics should, therefore, also cover, to the extent possible, other public sector entities (for example, extrabudgetary funds, nonfinancial public corporations, the central bank, and other public financial corporations) that may be excluded from the central or general government definition but may generate significant fiscal risks.
- The **scope** of these statistics should also be as broad as possible, covering data on flows, as well as stock positions presented on a detailed balance sheet of the public sector (using an integrated framework, such as the Government Finance Statistics [GFS] system). Also, information should be disseminated on implicit and explicit contingent liabilities (as an example, see Table 5.12 for a presentation of explicit contingent liabilities and net obligations of future social security benefits).
- To provide an accurate assessment of the public sector's financial situation, particular attention should be attached to the **quality of the statistics**, including with regard to the **estimation of the market value of assets and liabilities**.

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¹⁹See "Fiscal Risks: Sources, Disclosure, and Management," IMF's Departmental Paper No. 09/01, January 2009.

²⁰See "Disclosing Fiscal Risks in the Post-Crisis World"; IMF Staff Position Note SPN/09/18; July 2009.

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Work of International Agencies

This chapter outlines the activities of international agencies that are involved with various aspects of public sector debt, such as data compilation and dissemination, debt management and reporting, methodological guidance, and technical assistance and training.

A. Introduction

10.1 The following international agencies are involved in public sector debt statistics:

- Bank for International Settlements (BIS);
- Commonwealth Secretariat (ComSec);
- European Central Bank (ECB);
- Eurostat;
- International Monetary Fund (IMF);
- Organization for Economic Cooperation and Development (OECD);
- Paris Club Secretariat;
- United Nations Conference on Trade and Development (UNCTAD); and
- the World Bank.

10.2 The information in this chapter is supplied by the agencies concerned. Some of their activities include publication of statistics on public sector debt, or some components thereof. Other activities include statistical standards, technical assistance and training, and debt management.

10.3 The annex to this chapter provides details of the ComSec debt recording system and the debt management and financial analysis system (DMFAS) of UNCTAD.

B. Bank for International Settlements (BIS)

10.4 The BIS produces two main sets of data of interest in this area: the International Banking Statistics (IBS) and the International Securities Statistics. These data are available on the BIS Web site¹ and published quarterly in the BIS publication, *Quarterly Review*. These two datasets are not collected with the primary aim of measuring public sector debt. However, as counterparty (creditor) and market data they may be useful to help monitor and proxy debt during periods when more comprehensive national data are not available or delayed.

I. BIS International Banking Statistics

10.5 The *Consolidated Banking Statistics* (“immediate borrower” [IB] basis), introduced in the wake of the Latin American debt crisis in the early 1980s and therefore explicitly designed to measure credit risk, are reported by the country of origin, or nationality, of creditor banks. The underlying principle is the worldwide consolidation of banks’ outstanding “international” claims (cross-border claims and local claims in foreign currency) on “immediate borrowers” in three sectors in each country, namely banks, **public sector**, and nonbank private sector, plus unallocated.² In the BIS definition, the public sector comprises general governments, central banks, and multilateral development banks. Publicly owned companies are allocated to the nonbank private sector on account of the greater similarity in credit risk.

¹See <http://www.bis.org/statistics/index.htm>.

²At the time of drafting this *Guide*, an expansion of the sectoral breakdown (for example, to identify separately nonbank financial institutions) is under consideration at the BIS CGFS (Committee on the Global Financial System).

10.6 Creditors are identified according to the home country of the head office in the consolidated statistics. The data are based on supervisory reporting, and their main objective is to measure the credit risk exposure of reporting institutions. Consolidation implies that the country exposure of individual reporting institutions covers that of their affiliates in all countries, including in the debtor country itself. As part of the process of consolidation, positions between the related offices of the same banking groups (intra-bank positions) are excluded. Local bank offices' claims in the debtor country denominated in local currency are also reported separately. The sum of these claims and of the international claims constitutes the "foreign" claims.

10.7 The consolidated statistics (IB basis) provide insight into some other important categories of countries' debt. Although these categories are not reported with a sectoral breakdown, they provide additional information for debt sustainability analysis for a country as a whole and its public sector. For example, short-term debt to banks with a **remaining maturity** of up to one year is reported separately.

10.8 As from end-June 1999, the reporting system added reporting of claims on an "ultimate risk" (UR) basis. For this, the IB claims are reallocated to the country of domicile of the guarantor, that is, the head office of the borrowing entity itself (for branches) or the entity providing an explicit (legally binding) guarantee, resulting in "ultimate risk" data. Also included, in principle, under such guarantees is collateral that is liquid and available in a country other than that of the borrower; for example, if the collateral provided is issued by a resident of the United States, then the ultimate risk data reallocates the claim to the United States from the country of residence of the provider of the collateral. Claims guaranteed by the public sector are reclassified to this sector in the UR data. The "ultimate risk" sectoral data are based on "foreign" claims, that is, the totality of cross-border and local claims in all currencies, including the local currency of the debtor country. Due to acquisition of local banks by foreign banks, local claims are substantial in many countries; they may be funded mainly from local deposit liabilities. Certain potential claims, such as guarantees extended, undisbursed credit commitments, and the positive market value of derivatives claims related to the country, are also reported separately in the UR data set.

10.9 The data on exposures to ultimate counterparties provide a useful complement to those on exposures to immediate counterparties for the purpose

of evaluating country and sector risk. Indeed, in view of the difficulty of measuring where the final risk lies and of the significance of borderline cases, the Basel Committee on Banking Supervision has recommended that banks calculate their country exposure on both bases (dual exposure measurement). The ultimate risk exposure tends to provide a better measure of the ability of creditors to recoup their claims.

10.10 A second set of BIS banking statistics, the *Locational Banking Statistics*, provides time series back to the 1970s. The main characteristic of this dataset is that reporting bank offices are grouped not by the nationality of their head office, but by their country of residence. Since the data (cross-border claims and liabilities by residence of counterparty) are broken down only into claims on banks and on nonbanks, they do not provide direct information on banks' lending to the public sector. They do, however, provide important additional detail on the total external debt of a given country, such as the currency composition and instrument composition of external debt to banks.

10.11 Firstly, the locational data provide the authorities with a broad picture of the currency and instrument composition (i.e., loans, debt securities, and other) of total external debt to banks, which can be important for debt sustainability analysis both for the country as a whole and, in particular, the public sector. Secondly, because much care is taken to ensure the broad consistency and comparability of the locational and the consolidated data sets, the currency detail of the locational data can be used to gain an understanding of the impact of exchange rate movements on consolidated banking claims, which are reported without a currency breakdown. Thirdly, because the locational data are consistent with the International Investment Position (IIP) framework (classifying both creditors and debtors by their country of residence), the locational statistics permit a statistical reconciliation on a country-by-country basis.

2. BIS International Debt Securities Statistics

10.12 The BIS International Debt Securities Statistics³ are derived from a security-by-security database

³ The BIS also collects data on domestic debt securities issuance, with a breakdown for government. Since these data are based on national data, they do not in principle add independent information content beyond that already provided by the national (debtor) statistics. Since the data are standardized as far as possible across

containing all international debt securities⁴ issued since the inception of these transactions in the 1960s, which are obtained from a number of commercial and institutional sources. Each individual issuer of securities is assigned two country codes. One is location, determined by the residence of the issuer. The second field is nationality, corresponding to the country of residence of the head office or owner of the issuing entity. Thus, international debt securities data are available on both a residence and a nationality basis.

10.13 Aggregate data are published quarterly: amounts outstanding at end-quarter, announced new issues and net new issues (corresponding to the difference between completed issues and redemptions). The BIS publishes data on the government sector, which comprises central governments, other governments, and central banks. Given that the BIS database stores a great amount of detail on each individual security, very detailed breakdowns for the public sector can be produced by adding, for example, public financial and nonfinancial corporations to the government sector.

10.14 When aggregating the international banking and securities statistics for the purpose of measuring public sector debt, it should be noted that the consolidated banking (creditor) data vis-à-vis the public sector include banks' holdings of an unknown volume of securities issued on international and local markets. As a result, the actual size of the overlap between the international banking and securities (market) data vis-à-vis the public sector cannot be fully ascertained.

C. The Commonwealth Secretariat

I. Overview

10.15 The Commonwealth Secretariat⁵ is the main intergovernmental agency of the Commonwealth, a voluntary association of 54 countries, and is based in London, U.K. Following the 1980s debt crisis, the Secretariat was given a mandate by the Commonwealth Finance Ministers to assist its member countries in maintaining sustainable levels of debt. Consequently, the debt management program was established to meet this objective, starting with the development of spe-

cialist software (the Commonwealth Secretariat Debt Recording and Management System, CS-DRMS) to enable countries to record and manage their debt.

10.16 The debt management program has since evolved to meet the changing needs of member countries and now includes:

- Provision of the Commonwealth Secretariat Debt Management Software Suite and training in its use;
- Advisory support on debt management legislation, policies, strategies, and institutional aspects;
- Capacity building in all areas of public sector debt management.

10.17 These activities are provided free of charge to Commonwealth member countries and are implemented by the Debt Management Section (DMS) within the Secretariat's Special Advisory Services Division.

2. Provision of debt management system

10.18 CS-DRMS⁶ was first developed and installed for use by Sri Lanka, a member country, in 1985. CS-DRMS initially enabled countries to record and manage external debt, which was the priority at that time. The capability to record and manage domestic debt was introduced later, following the increasing trend in domestic borrowing by many developing countries starting from the late 1980s. The system now allows countries to maintain a comprehensive database of all government borrowing and guarantees, as well as carry out analysis. It is enhanced constantly to keep up with technology, developments in debt management, and to meet the changing needs of client countries and creditor practices.

10.19 CS-DRMS is provided free of charge to Commonwealth member countries⁷ and, in 2011, was deployed in 60 countries, including 15 outside of the Commonwealth. The system is used for managing sovereign debt, subnational debt, government lending, guarantees, and private sector debt. Training and user support is also provided by the Secretariat to ensure that the system is used effectively to support debt management operations and meet reporting requirements.

countries, they can however serve as a convenient one-stop source for cross-country comparative studies.

⁴International debt securities cover bonds and notes (long-term issues) and money market instruments (short-term issues) placed in international markets.

⁵See <http://www.thecommonwealth.org>.

⁶See <http://www.csdrms.org>.

⁷CS-DRMS can be purchased by non-Commonwealth countries through Crown Agents, who hold a nonexclusive distributor agreement with the Secretariat (<http://www.crownagents.com>).

10.20 In addition to CS-DRMS, the Secretariat has developed complementary software products for its member countries. The Commonwealth Secretariat Securities Auction System (CS-SAS) assists countries in managing the auction of government securities, whilst the Commonwealth Secretariat Public Debt Analytical Tool⁸ (CS-PDAT) is a decision support system for assisting debt managers to develop and assess alternative borrowing strategies within a cost-risk framework. The tool also enables debt managers to implement their desired strategy through the integration of cash and debt management, development of an annual borrowing plan including an issuance calendar, and liability management operations such as buybacks, exchanges, restructuring, embedded options, and swaps.

3. Advisory services

10.21 In response to requests from its member countries, the Commonwealth Secretariat provides advice on a range of public debt management related issues. This includes advice on institutional arrangements and the legal framework for public debt management, setting up a debt office, strengthening middle office capacity in debt management, support in developing debt management strategies, and advice on developing the domestic debt market. In addition, a significant component of the advisory services includes the development and validation of a public debt database in CS-DRMS. Recently, the Secretariat initiated assistance to countries in developing a debt bulletin for internal analysis and public dissemination. The main objective of all the advisory services is to support reforms in debt management in any member country for promoting sound debt management practices.

10.22 After extensive consultation with various stakeholders in public debt management within a country, a diagnostic report setting out the key recommendations on any specific area for public debt management reforms is developed and submitted to the country authorities for implementation. Where countries need further support in the implementation of various reforms, a follow-up advisory mission visits a country to formulate a detailed plan of action for implementation of such reforms.

10.23 As part of its advisory services, the Secretariat routinely assesses the needs of its member countries and develops joint programs of support after factoring in support from other developmental partners. This allows

more coherent and sequenced activities to improve debt management practices. Finally, the progress of a country on any particular reform is monitored periodically and follow-up advice is provided to assist countries in moving forward.

4. Capacity building

10.24 Building capacity in public debt management is a priority for the Secretariat. The main purpose of capacity building support is to ensure sustainable debt management capacity in member countries. While the advisory services are based on a top-down approach, the capacity building activities are based on a bottom-up approach, which enhances the prospect of successful debt management reforms. To ensure capacity building is appropriately targeted and relevant, the Secretariat works with its member countries to agree the scope and timing of capacity building activities to meet their own specific needs.

10.25 In addition to CS-DRMS user training, the Secretariat provides training in a wide range of debt management activities for government and central bank officials from the Commonwealth. These courses are often conducted in collaboration with international organizations, such as the World Bank and IMF, and regional organizations. In addition, the Secretariat provides a mentoring program, on-the-job coaching, peer-to-peer learning, and e-learning programs on debt data compilation and reporting in CS-DRMS.⁹

10.26 A substantial component of the capacity building program is based on providing debt managers with hands-on training on various aspects of debt analysis including loan negotiation, debt sustainability analysis, debt management strategy formulation in a cost-risk framework, and fixed income securities. Training on other debt management topics, such as institutional arrangements, risk management, and development of domestic debt market are also provided as part of the capacity building program.

10.27 The Secretariat has also placed debt management advisers in different regions to provide country-specific advice and support. Between 2005 and 2008, they focused on building capacity in debt data compilation and reporting using CS-DRMS. From 2011, the scope of the regional adviser project is expanded to cover debt management policies and strategies, in

⁸CS-PDAT is planned to be released by the end of 2011.

⁹This is done in collaboration with the Commonwealth of Learning (<http://www.col.org>).

addition to support on debt statistics and the use of CS-DRMS.

10.28 A number of conferences and workshops are also arranged by the Secretariat to deliberate on recent developments and emerging issues in debt management and promote the sharing of best practice in debt management. The Commonwealth Secretariat Debt Management Forum, held every two years, is its flagship event that brings together debt managers and senior government officials from across the Commonwealth countries.

5. Publications

10.29 Through its debt management series of publications, the Secretariat spreads examples of good practices in public debt management and guides countries in their own operations. For example, it has produced publications on domestic debt management, contingent liabilities, market development, and the legal framework for debt management. Guidance on specific areas of debt management is provided in a quarterly newsletter that also raises awareness of the Secretariat's activities within client countries and those of other stakeholders.

6. Partnerships

10.30 In many instances, the Secretariat works alongside other agencies in debt management, particularly the World Bank,¹⁰ IMF, and a number of regional organizations including the Eastern Caribbean Central Bank, the Macroeconomic and Financial Management Institute of eastern and southern Africa (MEFMI), Pole Dette, and the West African Institute for Financial and Economic Management (WAIFEM). It is a member of the Task Force on Finance Statistics and has played a major role in raising the standards of debt data recording and reporting. It also supports the International Organization of Supreme Audit Institutions (INTOSAI) to promote more effective audits of public debt management by ensuring CS-DRMS meets INTOSAI standards.

10.31 Apart from the services it provides to its member countries under the debt management program, the Secretariat is involved in global advocacy on the international financial architecture, including debt relief and financing for development. Its annual Commonwealth

¹⁰The Secretariat is an implementing partner of the World Bank-administered Debt Management Facility.

Ministerial Debt Sustainability Forum, which is attended by finance ministers and senior government officials from member countries, provides a forum where debt issues common to the Commonwealth are discussed and action is agreed. This activity is implemented by the Economic Affairs Division within the Secretariat.

D. European Central Bank (ECB)

I. Background

10.32 To carry out the analysis required for monetary policy, the European Central Bank (ECB) and the European System of Central Banks (ESCB) need comprehensive and reliable government finance statistics. Government finance statistics (GFS) form an important part of the integrated system of sectoral nonfinancial and financial accounts for the euro area. Moreover, the ECB, like the European Commission, prepares periodic "convergence" reports assessing the preparedness of nonparticipating member states to adopt the euro, for which annual data on government deficits and outstanding government debt are important criteria. The ECB also closely follows developments under the European Union's (EU) excessive deficit procedure (EDP) and the Stability and Growth Pact (see also paragraphs 10.56–10.60).

10.33 Data are reported to ECB under the GFS Guideline,¹¹ which requests data on government revenue and expenditure, government deficit and debt, the relationship between deficit and debt, and transactions between the EU institutions and general government or other resident sectors of the economy. The Guideline also lays down when and how these data should be reported to the ECB. The GFS Guideline defines the requested data by reference to the *European System of Accounts 1995 (ESA95)*¹² and the EDP.¹³

10.34 Further guidance is provided in the ECB's *Government Finance Statistics Guide*.¹⁴ This guide

¹¹The ECB Guideline on GFS (ECB/2009/20) can be found at: <http://www.ecb.europa.eu/ecb/legal/1005/96887/html/index.en.html>.

¹²Council Regulation (EC) No 2223/96 of 25 June 1996 on the European system of national and regional accounts in the Community, OJ L 310, 30.11.1996, p. 1-469, as amended.

¹³Council Regulation (EC) No 479/2009 of 25 May 2009 on the application of the Protocol on the excessive deficit procedure annexed to the Treaty establishing the European Community (codified version), OJ L 145, 10.6.2009, pp. 1-9.

¹⁴The *Government Finance Statistics Guide* is available on the ECB Web site at <http://www.ecb.int/pub/pdf/other/governmentfinancestatisticsguide201003en.pdf>.

intends to complement the GFS Guideline and focuses on the practical aspects in the compilation of the government finance statistics that the National Central Banks (NCBs) report to the ECB. The guide is regularly updated in order to keep up with methodological changes and changes in the reporting tables

2. Methodology

10.35 EU law requires member states to use the *ESA95* in the preparation of the macroeconomic statistics which they send to the European Commission. This ensures that the national data are comparable. The *ESA95* is an integrated system of economic accounts from which many macroeconomic aggregates, such as gross domestic product, are derived. It organizes the statistics on the output of an economy, the generation and distribution of income arising from that output, the accumulation of capital and financial assets and liabilities, and balance sheets.

10.36 The *ESA95* will be updated to be consistent with the *System of National Accounts, 2008 (2008 SNA)*, focusing on circumstances and data needs in the EU.

3. Publication

10.37 The ECB requires two submissions each year of annual GFS data (in April and October), and interim updates and revisions. These data deliveries are used to update Tables 6.1 to 6.3 on the euro area general government fiscal position in the “euro area statistics” section of the ECB’s monthly bulletin, as well as Tables 7.1, 7.2, and Tables 11.8 to 11.10 of the ECB’s *Statistics Pocket Book*.¹⁵ The April and October data submissions are also used for internal publications such as the *Annual Public Finance Report* and the *Autumn Fiscal Policy Note*, which contain statistics (up to year t-1) and fiscal forecasts (from year t to year t+2).

10.38 The ECB publishes quarterly euro area aggregates of government revenue, expenditure, deficit, debt and the deficit-debt adjustment in Tables 6.4 and 6.5 in the “euro area statistics” section of the ECB’s monthly bulletin. The provision of quarterly GFS data is not covered by the GFS Guideline. Eurostat and the member states kindly transmit these quarterly data to the ECB. The quarterly euro area aggregates of the nonfinancial and financial accounts of the general government sector

¹⁵The *Statistics Pocket book* is available on the ECB’s Web site at <http://www.ecb.europa.eu>.

are used as a building-block in the compilation of the integrated euro area accounts.

4. Debt statistics

10.39 Seven categories of financial instruments are distinguished in the *ESA95*. These are classified according to liquidity factors and legal characteristics. They are listed below, with their *ESA95* codes for financial balance sheet data:

- Monetary gold and special drawing rights (AF.1);
- Currency and deposits (AF.2);
- Securities other than shares (AF.3);
- Loans (AF.4);
- Shares and other equity (AF.5);
- Insurance technical reserves (AF.6); and
- Other accounts receivable/payable (AF.7).

10.40 In ECB publications the concept of “EDP” or “Maastricht debt” is often used.¹⁶ Definitions and further information on the concept of EDP debt can be found in the annex to Chapter 5 of this *Guide*.

10.41 The GFS Guideline does not only request information on financial instruments and original maturity, but also on holders of the instruments, currency denomination, and residual maturity.

5. Deficit-debt adjustment

10.42 The GFS Guideline includes data on the relationship between the deficit and the Maastricht debt. Although government deficit and debt are closely interrelated concepts, the change in the debt level in any given year can be larger or smaller than the deficit. The difference between the change in debt and the deficit is known as the “deficit-debt adjustment” (DDA) or, more generally, as the “stock-flow adjustment” (SFA). The DDA measures the part of the change in debt that is not accounted for by the deficit/surplus (D9). As long as the components of the DDA are sound, the difference between the change in debt and the deficit is explained and does not raise concerns regarding data quality. A positive DDA means that the increase in debt exceeds

¹⁶“Maastricht debt” or “EDP debt” is defined in the Protocol on the excessive deficit procedure (EDP) annexed to the Maastricht Treaty and in Article 1 (5) of Council Regulation (EC) No 479/2009 as the total general government gross debt at face value outstanding at the end of the year.

the deficit or that the reduction of debt is lower than the surplus. A negative DDA means that the decrease in debt is smaller than the surplus or that the debt has decreased despite a deficit.

10.43 The DDA can be divided into three main pillars:

- Pillar A – Transactions in main financial assets;
- Pillar B – Time of recording and other differences; and
- Pillar C – Valuation effects and other changes in the volume of debt.

10.44 Pillar A—transactions in main financial assets—comprises, for example, transactions in deposits held by the ministry of finance or other governmental units at the central bank and other monetary financial institutions (MFIs), the net acquisition of nongovernment securities by social security funds (which build up assets to cover future pension entitlements), and the net acquisition of equity held by government in public corporations.

10.45 Pillar B—time of recording and other differences—can be divided into the following categories:

- Time of recording differences;
- Net transactions in financial derivatives;
- Statistical discrepancies; and
- Transactions in monetary gold and insurance technical reserves.

10.46 Time of recording differences refers to the difference between the recording of expenditure and the related payments and that of revenue and the related cash flow to government. For instance, expenditure is recorded upon delivery of supplies and hence increases the deficit, although government may delay (in line with contractual settlement clauses) the actual cash payment. The financial claim on government owing to this timing difference is recorded under other accounts payable (F.7). Other accounts payable are not part of government debt as defined for the purpose of the EDP (unlike the definition of debt used in this *Guide*). Similarly, taxes are recorded as reducing the deficit at the time that they are assessed, even though payment may take place somewhat later. This delay is recorded under other accounts receivable (F.7) in the government accounts. Other time of recording differences may arise on account of the advance or delay in the EU reimbursing the funds the government spends on its behalf.

10.47 Transactions in financial derivatives (F.34) may either generate cash, thereby reducing the government borrowing requirement,¹⁷ or oblige the government to borrow more where settlements under swaps turn out to be negative.

10.48 The statistical discrepancy is the difference between the deficit as measured by the nonfinancial accounts (B.9), and the deficit as measured by the financial accounts (B.9f). When the government has a deficit in the nonfinancial accounts, the equivalent amount should be displayed in the general government financial accounts: the increase in liabilities should exceed the increase in financial assets by the amount of the deficit. Because different sources of data are used to measure the transactions resulting in the two balances, B.9 and B.9f are not always equal.

10.49 Transactions in monetary gold and insurance technical reserves are typically negligible for general government in euro area countries.

10.50 Pillar C—valuation effects and other changes in the volume of debt—can be divided in three groups:

- The market-to-face-value adjustment;
- Foreign exchange holding gains and losses; and
- Other changes in the volume of debt.

10.51 General government debt (and therefore the change in debt) is recorded at face value, whereas financial transactions in the *ESA95* are recorded at market value (including accrued interest). In order to compensate for this difference in valuation, the DDA includes the market-to-face-value adjustment. The adjustment applies only to transactions—that is, to new borrowings and repayment or buying-in of debt at prices which differ from face value (issuances and redemptions below or above par).

10.52 General government debt denominated in foreign currency, unless covered forward, is valued at current exchange rates on the balance sheet date. The amount of outstanding debt may therefore vary without any counterpart in the general government deficit, or any transactions in foreign currency debt in the intervening period. Thus foreign exchange holding gains and losses are another element of the DDA. General government debt covered forward is valued at the

¹⁷The borrowing requirement is defined here as total transactions in liabilities in the form of debt instruments (for the purpose of the EDP, these are currency and deposits, loans, and debt securities).

exchange rate in the forward contract, which does not vary during the life of the contract.

10.53 Changes in the debt related to reclassification are recorded in other changes in the volume of debt. These include changes in the statistical classification of units from the government to a nongovernment sector (or the reverse). Following the reclassification, liabilities of these units cease to be government debt, with no counterpart in the general government deficit. This item may also conceal statistical discrepancies between financial flows and the stock of debt.

6. Other methodological work

10.54 The GFS data should also reflect decisions taken by Eurostat on the interpretation of the *ESA95* in specific cases involving the general government sector. With the aim of ensuring a consistent compilation of government deficit and debt across EU countries, Eurostat has developed a well-defined procedure for dealing with borderline transactions. After discussions in expert Eurostat working parties and task forces, Eurostat consults the Committee on Monetary, Financial and Balance of Payments Statistics (CMFB),¹⁸ comprising senior statisticians of NCBs and national statistical institutes. Eurostat then takes the final decision on the transaction according to purely technical criteria, which is thereafter applicable to similar cases arising throughout the EU. The main methodological decisions are discussed in more detail in the *ESA95 Manual on Government Deficit and Debt* (“*Deficit and Debt Manual*”).¹⁹

10.55 One example of such discussion was the response to the 2008-09 global financial crisis and its consequences for European financial institutions, European governments, central banks, and other public authorities who implemented measures to stabilize the financial markets and the economy in general. The government operations involved measures such as (partial) nationalizations, capital injections (recapitalizations), the purchase and/or exchange of financial assets, and the provision of guarantees (on deposits and new debt issuances by banks as well as on inter-bank lending). This raised a number of questions on government accounting that were discussed among the CMFB members. The outcome of these discussions was reflected in Eurostat guidance on the statistical

recording of public interventions to support financial institutions and financial markets.

E. Eurostat

I. Introduction—the Excessive Deficit Procedure and ESA95 Transmission Program

10.56 Eurostat publishes government debt data²⁰ collected from European Union member states, and certain other European countries, via two channels:

- The EDP Notification Tables; and
- The *ESA95* Transmission Program (ESA95TP).

10.57 In the framework of the EDP (see the annex to Chapter 5), all EU member states are required to report their annual government deficit and debt data to Eurostat before April 1 and October 1 each year. The data are provided for four back years. Following a process of clarification, Eurostat publishes the government deficit and debt data three weeks after country reporting.

10.58 National accounts of each EU member state are compiled separately by each country, according to the *ESA95*, by the National Statistical Institute or (exceptionally) another institution appointed by the government (for example, the national central bank).

10.59 Eurostat compiles European aggregates indirectly by combining the member states’ national contributions. To coordinate this work, with country reporting synchronized for content and timing, an ESA95TP has been established, which has a legal basis to ensure compliance. The transmission program includes annual financial accounts data broken down by sector (including general government), and annual and quarterly nonfinancial sector accounts.

10.60 Quarterly government debt data (according to the definition used for the EDP, see above) and quarterly government financial accounts are the subject of separate transmissions.

2. The structure of the debt questionnaire

10.61 In addition to the data collection through the EDP and ESA95TP, Eurostat launches an annual voluntary questionnaire on government debt structure with the aim of collecting main features of debt in EU coun-

¹⁸See <http://www.cmfb.org>.

¹⁹Available at the government finance statistics section of the Eurostat Web site (<http://www.epp.eurostat.ec.europa.eu>).

²⁰These data are published on Eurostat’s Web site and in various publications.

tries (for example, on maturity and currency structure). These data are published in the early autumn each year, with data up to the previous year.

3. Publication of debt statistics

10.62 Debt statistics are disseminated in several of Eurostat's publications:

- EDP Notification Tables: EDP-related data are sent to Eurostat twice a year—at end-March and end-September. These data should be fully consistent with GFS data collected through the *ESA95* transmission program.
- **Government finance statistics (GFS) in Eurostat's database:**
 - Quarterly GFS, comprising of quarterly government debt and quarterly financial accounts of general government; and
 - Government deficit and debt, comprising of the structure of government debt,²¹ debt by currency of issue, and state guarantees.

10.63 Annual GFS tables are compiled twice a year, around end-April and end-October, and quarterly GFS tables are compiled four times per year. These tables cover, in an integrated way, government revenue and expenditure, deficit/surplus, transactions in financial assets and liabilities, other economic flows in financial assets and liabilities, and financial balance sheets. The tables show, for each EU member state, the data expressed in millions of national currency, as percentages of GDP, and (for quarterly data) as quarter-to-quarter of the previous year growth rates. The tables follow the definitions established for GFS in Europe and therefore differ in some minor ways from the GFS reported to, and published by, the IMF.

4. Methodology

10.64 EU government deficit and debt data are based on the methodological rules of *ESA95*, together with some specific definitions for EDP-related data. The *ESA95 Manual on Government Deficit and Debt (MGDD)* is intended to aid the application of *ESA95* for calculating government deficit and debt. The *MGDD* is not a legal act, but provides commonly accepted interpretation and guidance for Eurostat and

European countries.²² The original manual has been supplemented by new chapters over time.²³

10.65 The following manuals provide additional conceptual guidelines as well as descriptions on actual sources and methods used in practice by member states for the compilation of government data²⁴:

- *Manual on Sources and Methods for the Compilation of ESA95 Financial Accounts, second edition;*
- *Manual on Sources and Methods for the Compilation of Classification of the Functions of Government (COFOG) Statistics;*
- *Manual on Compilation of Taxes and Social Contributions on a Quarterly Basis;*
- *Manual on Quarterly Nonfinancial Accounts for General Government; and*
- *Manual on Sources and Methods for Quarterly Financial Accounts for General Government.*

10.66 Eurostat also disseminates the following methodology-related documents:

- **Decisions for GFS:** Eurostat disseminates decisions which provide guidance to countries on the recording of certain types of transactions, or which deal with specific cases which are particularly complex (see paragraphs 10.54–10.55).
- **Guidance on accounting rules for EDP and GFS:** In addition to *ESA95* and the *ESA95 Manual on Government Deficit and Debt*, Eurostat occasionally publishes guidance notes on specific issues.
- **EDP Inventories:** These documents describe the sources and methods used by each member state for compiling the reported EDP data.
- **Advice letters to member states:** Eurostat provides bilateral advice to EU member states when requested on specific cases, and the exchange of letters is published.

²²In case of possible conflicting guidelines between the *MGDD* and *ESA95*, the latter—which is a European Regulation—is the primary source of reference.

²³The following chapters were added: Securitization operations undertaken by general government; Capital injections; Classification of funded pension schemes and impact on government finance; Lump-sum payment to government in the context of the transfer of pension obligations; and Long-term contracts between government units and nongovernment partners.

²⁴Some are directly relevant to the compilation of government debt statistics, and others are linked to other GFS datasets.

²¹This is further broken down into central government debt, state and local government debt, and social security funds' debt.

10.67 This information can be found on Eurostat's Government Finance Statistics Web pages, which are accessible from the main Eurostat Web site.

F. International Monetary Fund (IMF)

10.68 The IMF has a multifaceted work agenda on public sector debt. This includes:

- The development of statistical methodology and standards, technical assistance and training in applying these, dissemination of statistics, and evaluation of countries' compliance with the standards;
- The incorporation of debt sustainability analysis into surveillance²⁵; and
- Technical assistance and training in debt management, covering the public financial management aspects as well as the institutional arrangements, debt structure, debt operations, funding strategy, capital market development, and debt restructuring.

I. Statistics

a. Methodology

10.69 The IMF is responsible—often in cooperation with other international agencies—for providing internationally accepted manuals and guides in the following statistical areas²⁶:

- External sector;
- Government finance;
- Monetary and financial; and
- National accounts and prices.

10.70 The manuals and guides are harmonized, to the extent possible, with the latest version of the *System of National Accounts*.

²⁵Surveillance is an essential aspect of the IMF's responsibilities associated with overseeing the policies of its members in complying with their obligations specified in the IMF's Articles of Agreement. The Articles of Agreement is an international treaty that sets out the purposes, principles, and financial structure of the IMF.

²⁶All of these statistical methodologies deal with public sector debt, or some components, in some way or another.

b. Data standards and codes

10.71 The IMF's work on data dissemination standards began in October 1995, when the Interim Committee (now the International Monetary and Financial Committee or IMFC) endorsed the establishment by the IMF of standards to guide members in the dissemination to the public of their economic and financial data. Those standards were to consist of two tiers: the **General Data Dissemination System (GDDS)**, which would potentially apply to all IMF members, and the **Special Data Dissemination Standard (SDDS)**, for those member countries having or seeking access to international capital markets. Both tiers cover government debt statistics.

10.72 The IMF's **Dissemination Standards Bulletin Board (DSBB)**²⁷ was established to guide countries in their provision of economic and financial data to the public. The DSBB provides access to the SDDS, the GDDS, and the Data Quality Reference (DQRS) Web sites.

- The **SDDS** was established in 1996 to guide countries that have, or that might seek, access to international capital markets in the dissemination of economic and financial data to the public. The SDDS Web site²⁸ provides information about economic and financial data disseminated by member countries that subscribe to the SDDS.
- The **GDDS** was established in 1997 to guide countries in the provision to the public of comprehensive, timely, accessible, and reliable economic, financial, and socio-demographic data. The GDDS Web site²⁹ provides information on data produced and disseminated by member countries that participate in the GDDS. Member countries of the IMF voluntarily elect to participate in the GDDS. The GDDS framework is built around four dimensions—data characteristics, quality, access, and integrity—and is intended to provide guidance for the overall development of macroeconomic, financial, and socio-demographic data.
- The Data Quality Reference Site (**DQRS**)³⁰, which was created to foster a common understanding of data quality, provides access to contributions in the field and includes a selection of articles, and other sources related to data quality issues.

²⁷See <http://dsbb.imf.org>.

²⁸See <http://dsbb.imf.org/Pages/SDDS/Overview.aspx>.

²⁹See <http://dsbb.imf.org/Pages/GDDS/WhatIsGDDS.aspx>.

³⁰See <http://dsbb.imf.org/Pages/DQRS/DQAF.aspx>.

10.73 The IMF also conducts Reports on the Observance of Standards and Codes (ROSCs), which summarize the extent to which countries observe certain internationally recognized standards and codes, including **data dissemination**. Reports summarizing countries' observance of these standards are prepared and published at the request of the member country. They are used to help sharpen the institutions' policy discussions with national authorities, and in the private sector (including by rating agencies) for risk assessment.

10.74 For statistics, the ROSC—Data Module is based on the Data Quality Assessment Framework (DQAF), as described on the DQRS. The DQAF provides an integrated and flexible framework in which data quality is assessed using a six-part structure that spans institutional environments, statistical processes, and characteristics of the statistical products.

c. Publication of government finance statistics

10.75 Government finance statistics (GFS), which include debt statistics, are disseminated in the IMF's annual *Government Finance Statistics Yearbook (GFS Yearbook)* and in the monthly *International Financial Statistics (IFS)* publications. In both publications, the data are presented according to the *Government Finance Statistics Manual (GFSM)*.

10.76 The *GFS Yearbook* contains annual statistics covering the general government sector, and its subsectors, of member countries. The *GFS Yearbook* is disseminated in hard-copy and on CD-ROM. The *GFS Yearbook* is a global time series collection of detailed fiscal statistics that are comparable across countries. The *GFS Yearbook* is compiled from data submissions by member countries. Eurostat coordinates the submission of several European countries to reduce reporting burdens for its members. The comparability across countries is achieved by using the *GFSM* framework for processing all submissions. The *GFSM* methodology and, thereby, the publication of the annual *GFS Yearbook* data, is supported by the IMF through technical assistance and training to assure data consistency across countries (see below).

10.77 More current and higher frequency (i.e., monthly and/or quarterly) government finance statistics (including debt statistics) are available in the *IFS*, which is published in hard-copy and online. Unlike the *GFS Yearbook* which aims to capture the operations of the general government and its subsectors

separately, the *IFS* data cover, in some cases, only the central government or the budgetary central government (i.e., without the extrabudgetary components or social security funds). The higher frequency *IFS* government finance statistics are also presented according to the *GFSM*. However, because of differences in institutional coverage among countries, their statistics are not always comparable across countries.

10.78 The Statistics Department of the IMF also collaborates with the World Bank on their collection and dissemination of external and public sector debt statistics (see *World Bank* later in this chapter).

d. Technical assistance and training in the compilation of government finance statistics

10.79 The IMF offers technical assistance in the **compilation of government finance statistics** (which also cover debt statistics). This work is reinforced by training courses and workshops for member country officials on statistical methodologies and their applications, including public sector debt statistics.³¹ In addition, the IMF provides information on data and statistical topics via its public Web site.³²

10.80 Technical assistance is designed to improve the collection, compilation, and dissemination of official statistics. In addition to providing assessments with respect to accuracy, coverage, and timeliness, technical assistance missions in each area often deliver on-the-job training, help design reporting forms, and spreadsheets to facilitate correct classification, and lay out short- and medium-term action plans for the improvement of statistical procedures. Missions may pay particular attention to assisting countries in their efforts to comply with the requirements of the SDDS or participate in the GDDS.

10.81 The main vehicle for the delivery of technical assistance is short-term single-topic missions, which are conducted by IMF staff and externally recruited experts. The IMF also undertakes multitopic statistical missions, which provide overall assessments and recommendations for strengthening institutional arrangements, methodology, collection, and compilation practices in the major areas of macroeconomic statistics. These missions address the issues related to each sector, and consider the consistent treatment of data and

³¹For further information on the IMF's technical assistance and training courses, please contact: The Director, Statistics Department, International Monetary Fund, Washington, D.C., 20431, USA.

³²See <http://www.imf.org/external/data.htm>.

coordination arrangements across sectors, and provide short- and medium-term action plans for improving statistics, including follow-up missions in the topical areas.

10.82 The IMF also offers training courses and workshops in statistical methodology at the IMF Institute in Washington, D.C., and at regional training centers. These courses and workshops range from one to six weeks in length and generally include a series of lectures, discussions, practical exercises, and case studies. During the lectures, participants are afforded an opportunity to discuss problems that they have actually encountered in the course of their work in their respective countries.

2. Public sector debt surveillance and management

10.83 The IMF actively provides support for members' reform of effective management of public sector debt through a variety of routes: surveillance, technical assistance, and training.

a. Surveillance

10.84 Within bilateral surveillance, where relevant, attention is focused on debt sustainability (see Chapter 9 of this *Guide*), debt composition and debt structures, debt strategies, debt markets, debt institutions, and debt statistics to inform the IMF's Article IV consultation³³ in member countries. In addition, efforts to strengthen debt management capacity, which represents an important factor in the application of the new IMF policy on debt limits, can be part of IMF programs. Frequently, debt management and debt market issues are also covered through the joint IMF-World Bank Financial Sector Assessment Program (FSAP).

10.85 In the context of multilateral surveillance, key developments in debt markets and current debt management challenges are monitored through:

- The annual IMF *Public Debt Managers' Forum* discussions with the private sector on the debt capital market side; and
- Regular coverage in the *Global Financial Stability Report*.

³³An Article IV consultation is a regular (usually annual), comprehensive discussion between the IMF staff and representatives of individual member countries concerning the member's economic and financial policies. The basis for these discussions is in Article IV of the IMF Articles of Agreement (as amended, effective 1978) which direct the IMF to exercise firm surveillance over each member's exchange rate policies.

b. Technical assistance and training in public sector debt management

10.86 The IMF delivers technical assistance on all aspects of **public sector debt management**, except data systems. This technical assistance focuses on the frameworks for public sector debt management,³⁴ as well as the legal and statistical (see Statistics above) aspects.

10.87 Most technical assistance takes place in the form of missions, led by IMF staff and could include external experts from central banks, ministries of finance, and debt management offices. Sometimes debt management advisors are placed in individual countries. Debt management advisors can also be placed in several of the IMF's regional Technical Assistance Centers (RTACs) for more interactive engagement, and sometimes debt advisors are assigned to specific regional projects.

10.88 The IMF also offers training courses and workshops at the IMF Institute in Washington, D.C., at regional training centers, and in partnership with regional technical assistance centers, as well as other multilateral agencies, including the World Bank, on the recently launched joint IMF-World Bank Medium-Term Debt Management Strategy (MTDS).³⁵ Courses are offered on a select basis covering institutional arrangements for debt management, debt portfolio risk management, and debt strategy development and implementation.

i. Overall framework for public sector debt management

10.89 The IMF provides policy advice, technical assistance, and training on the overall operational framework for public sector debt management. This work of the IMF:

- Serves as a reference point for technical advice and analysis relating to debt and liability management operations, asset and liability management activities, and overall balance sheet risk management, and debt restructuring; and
- Is informed by *Guidelines for Public Debt Management*³⁶ developed jointly with the World Bank,

³⁴Including debt strategy, risk measures in a debt portfolio, debt-monetary-financial stability interactions, debt market development, and liability management operations.

³⁵See Chapter 9 of this *Guide* for a discussion of the MTDS.

³⁶See <http://www.imf.org/external/np/mae/pdebt/2000/eng/index.htm>.

as well as *Developing Government Bond Markets: A Handbook*.³⁷

10.90 The issues covered under the overall framework for public sector debt management are:

- The institutional framework for debt management;
- Debt management strategy (including debt portfolio risk measures, issuance and funding strategy, choice of funding instruments, and accessing international capital markets);
- Debt market development;
- Liability management operations (including debt restructuring and creditor relations); and
- Asset-liability management (ALM) (including coordination with reserve management and identifying and managing quasi-sovereign and contingent risks).

The work aims to assist member countries to maintain the financial integrity of sovereign balance sheets, and to ensure that policy linkages are properly integrated in the debt strategies, and broader sovereign balance sheet risk management.

10.91 Technical assistance typically involves a comprehensive and in-depth assessment of the entire framework for public sector debt management and debt market development. This assessment ranges from the appropriateness of the debt management objectives, its coverage, and legal framework, to debt management strategy and debt operations. The institutional framework often undergoes adjustment as the debt management function evolves, frequently from a function integrated with the central bank's open market operations to a debt office more integrated with fiscal operations or a stand-alone office.³⁸ Technical assistance in this area is designed primarily to assess and advise on how the institutional framework can best support the debt management function as it is expected to evolve. In this regard, coordination with other functions (monetary, fiscal, project planning and selection) is vital.

10.92 A key element is the provision of assistance in the design and implementation of a medium-term debt management strategy (MTDS) through the application of the "MTDS toolkit" jointly developed with the World

Bank.³⁹ The IMF and the World Bank, in collaboration with other international technical assistance partners, conduct joint missions to developing and emerging countries. The framework is focused on finding the best cost-risk trade-off of different debt strategies: the composition is increasingly recognized as a core factor in avoiding default, keeping debt sustainable and affordable.

10.93 Debt market development is essential for promoting robust demand for public sector debt and stimulating private financial sector development. Technical assistance on this element of debt management is provided usually in the context of an overall debt management strategy, but also on a stand-alone basis. Topics covered by this technical assistance include:

- Developing primary and secondary capital markets (including domestic government auctions, primary dealer networks, payment systems, and the debt investor base);
- Providing advice to first-time bond issuers; and
- Coordinating debt and monetary management.

10.94 Assistance also focuses on the capital market interactions of public sector debt as part of normal debt management (such as via buy-back operations, debt exchanges, and benchmark issues), or part of a more fundamental restructuring of the debt portfolio. The latter may be provided on an emergency basis, usually in the context of an IMF-supported economic program to restore economic viability.

10.95 Emphasis is also placed on asset-liability management (ALM) based on debt and asset portfolio analysis and modeling, using state-of-the-art tools. This is focused on enhancing risk management capabilities, promoting the optimal composition of debt and assets, and identifying debt and asset management operations to bring this about.

ii. Fiscal framework for public sector debt management

10.96 The IMF also provides technical assistance on the fiscal policy aspects of public sector debt management, as well as on public financial management in general (of which debt management is one important component which needs to be integrated with other public financial activity). Topics covered include:

³⁷See <http://www.imf.org/external/pubs/cat/longres.cfm?sk=15114.0>.

³⁸The main functions a debt management office are discussed in Chapter 6 of this *Guide*.

³⁹The MTDS toolkit involves a guidance note for country authorities, an analytical spreadsheet, and accompanying user guide. See <http://www.imf.org/external/pp/longres.aspx?id=4326>.

- Fiscal and debt sustainability, in particular in the context of setting a medium-term fiscal strategy;
- Medium-term fiscal frameworks and fiscal rules (including debt rules);
- Fiscal risk management;
- Coordination of cash and debt management;
- Treasury functions in general; and
- Institutional aspects of public financial reform.

10.97 The IMF advises on the design of fiscal frameworks for setting deficit and debt paths, and on the appropriate strategy for ensuring debt sustainability.

10.98 As described in Chapter 9 of this *Guide*, advice also covers the identification and management of contingent liabilities and fiscal risks more generally. Advice on fiscal risks has significant bearing on the way sovereign balance sheets are defined and on how the debt portfolio is perceived and managed. Direct contingent risks such as government guarantees on corporate or subnational government debt can be adequately covered by a registry and guarantee fees. Implicit fiscal risks can be difficult to analyze; they include, for example, government guarantees leading to moral hazard for the central government and exposure risks in government projects such as public-private partnerships.

10.99 Technical assistance is provided on all aspects of cash-flow planning and management, of which an important aspect is its relationship with debt portfolio management. The largest flows into and out of the Treasury are often those relating to debt raising and debt servicing. Once a government is confident that its cash planning is sufficiently accurate, short-term money and securities market operations are necessary to meet cash surpluses and shortages efficiently. All of these operations need to be fully coordinated.

10.100 Technical assistance on reforms of the institutional arrangements in the public sector include the establishment of debt management offices and cash management units, and their relations with ministries of finance, and with line ministries, central banks, and the financial sector and markets.

G. Organization for Economic Cooperation and Development (OECD)

10.101 The OECD produces two main sets of data which contain information on government debt. One dataset deals with the Central Government Debt, under

the auspices of its Working Party on Public Debt Management (WPDM), and includes quantitative and qualitative information on specific central government debt instruments. The other dataset, under the auspices of the Working Party on Financial Statistics (WPFS), corresponds to a set of financial balance sheets (as part of the *SNA*). These financial balance sheets contain information on the liabilities (and debt) of general government and its subsectors, classified by financial instruments. The parent committee of these two Working Parties is the Committee on Financial Markets.

I. OECD activities linked to central government debt

a. Background

10.102 Through its WPDM, the OECD provides authoritative information on technical and policy issues in the area of public debt management and government securities markets. The first, principal objective of the WPDM is to provide a practical, hands-on policy forum for senior OECD debt managers. The first pillar of the WPDM's medium-term strategy is to strengthen this practical approach.

10.103 Since its creation, the WPDM has given senior government debt managers the opportunity to exchange informally and frankly their views and experiences in the field of government debt management and government securities markets. To that end, the agenda of the Annual Meeting of the WPDM (and also its global forums) tracks closely the rapid development in government debt policies and markets. Accordingly, the WPDM has focused on a wide range of topics, including such pressing government debt policy issues as the cost effectiveness of government debt instruments, the use of electronic systems, organization of debt management offices (DMOs), the role of debt managers (DMs) in sovereign asset/wealth management, the performance measurement of DMOs, new selling techniques, the organization of primary and secondary markets in government securities, advances in risk management, organization of cash management, the role of derivatives, and the role of DMs in assessing and managing contingent liabilities.

10.104 In this way, it has been possible to compile a unique, authoritative and up-to-date pool of knowledge in this special field of government activity and policy. The second main objective of the WPDM is to formulate, where possible and relevant, leading practices based on discussions among OECD debt managers in this highly specialized area of government policy. Over

the last decade, the WPDM has achieved a singular international status in the international community of debt managers, while its activities have resulted in a set of leading practices that function de facto as global standards. The second pillar of the WPDM's medium-term strategy is to develop further the set of leading practices and to disseminate them in an efficient fashion to a global audience.

10.105 Information about leading practices related to government debt management policy as well as primary and secondary debt market operations have been shared with debt managers from emerging market economies. To that end, the WPDM initiated in 1990 a policy dialogue with “transition” countries and, later on, with emerging markets in several regional and global policy forums.⁴⁰ As a result, the WPDM's pool of knowledge has become valuable for the debt managers and other financial policymakers from emerging market economies when they design and implement policies. The third main objective of the WPDM is to share this knowledge with policy makers from emerging debt markets via both dedicated WPDM global policy forums and outreach programs. At global Forums public debt managers from the OECD area discuss in an in-depth fashion OECD practices and policies with their counterparts from non-OECD countries. Forum meetings serve also as opportunities for in-depth follow-up discussions of topics that have been discussed by the WPDM. Accordingly, the third pillar of the WPDM's medium-term strategy is to strengthen and streamline the existing two global forums.⁴¹ It is also envisaged to deepen and extend the relations with non-OECD debt managers and other relevant multilateral organizations.

10.106 The OECD compiles and disseminates central government debt data for OECD countries and central government debt data for African countries.⁴²

b. Central Government Debt: Statistical Yearbook for OECD countries

10.107 OECD's *Central Government Debt: Statistical Yearbook* constitutes an annual release of a com-

prehensive set of data on central government debt of the OECD member countries. The *Yearbook*, published on the responsibility of the Secretary General of the OECD, is designed to meet the analytical requirements of users such as policymakers, debt management experts, and market analysts.

10.108 The focus of the publication and the underlying electronic database is to:

- Provide comprehensive quantitative information on marketable and nonmarketable central government debt instruments in all OECD member countries; and
- Present the borrowing requirements of governments to finance their budget deficits, with the aim of meeting the analytical needs of users such as policymakers, debt management experts and market analysts. More specifically, the *Central Government Debt Statistical Yearbook* includes information for OECD countries on:
 - Outstanding amounts by instrument;
 - Gross and net issues of marketable and nonmarketable debt of central governments, by instrument;
 - Duration and average term-to-maturity of domestic, external, and total debt;
 - Outstanding amounts by type of investors (resident and nonresident).

10.109 The coverage of the data is limited to central government⁴³ debt issuance and excludes debt of state and local governments, as well as social security funds. The following concepts are used:

- **Marketable instruments**, which consist of money market instruments (Treasury bills, commercial papers and other), bonds (fixed-rate income instruments, further subdivided into short-term, medium-term, and long-term bonds, index-linked bonds, variable-rate notes, and other bonds) with details on the length of maturity of long-term bonds and index-linked bonds. Other information is also provided: total marketable debt held by nonresidents, total marketable debt in foreign currency, the weighted average maturity of mar-

⁴⁰For example, the OECD has established the *Network for Public Debt Management in Emerging Markets*, in collaboration with the Italian Treasury. This Network offers continuous online access to the WPDM's pool of knowledge on experiences and leading practices in all aspects of public sector debt management. See <http://www.publicdebttnet.org/public/>.

⁴¹The two forums are the Annual OECD/World Bank/IMF Global Bond Market Forum and the Annual OECD Global Forum on Public Debt Management.

⁴²See www.oecd.org/daf/publicdebtmanagement.

⁴³The central government subsector is defined as those institutional units making up the central government plus those NPIs (non-profit institutions) that are controlled and mainly financed by central government. Central government has the authority to impose taxes on all resident and nonresident units engaged in economic activities within the country.

marketable debt, and the weighted average yield of marketable debt.

- **Nonmarketable instruments**, which consist of savings bonds and other nonmarketable instruments.
- **Duration**, which is the duration of the central government debt and can be calculated according to the Macaulay duration or the modified duration methods.
- **Term to maturity**, which is the period of time until the redemption or expiration of a financial instrument. For most countries, the maturity structure is a residual maturity, that is, the remaining time until the expiration or the repayment of the instrument. For seven countries (Italy, Japan, Korea, Mexico, Poland, Portugal, and Slovak Republic), it is the original maturity and precise definitions are indicated in the methodological notes.
- **Nominal value**, which is the valuation for recording transactions, that is, the amount that the debtor owes the creditor at any moment in time. If the valuation differs from nominal value, it is indicated in the methodological notes.

10.110 Statistics are derived from national sources based on a questionnaire prepared under the auspices of the OECD Working Party on Government Debt Management. Concepts and definitions are based, where possible, on the *SNA93*. Individual country data are presented in a comprehensive standard framework to facilitate cross-country comparison.

10.111 Accompanying country policy notes, meta-data, describe the details of debt instruments in each country and provide information on the institutional and regulatory framework as well as on selling techniques of debt instruments.

10.112 Data are available from 1980 and presented in national currency, U.S. dollars, and as a percentage of GDP for the relevant fiscal year. Financial derivatives are excluded, unless otherwise indicated in country notes.

c. African Central Government Debt: Statistical Yearbook for African countries

10.113 OECD's *African Central Government Debt: Statistical Yearbook* is an annual publication that provides information on central government debt instruments for African countries. The *Yearbook*, published

on the responsibility of the Secretary General of the OECD, is designed to meet the analytical needs of users such as policymakers, debt management experts, and market analysts.

10.114 The focus of the publication is to provide comprehensive quantitative information on central government debt instruments in African countries. The data in the publication, and underlying database, are available from 2003 and presented in national currency and euro for the relevant fiscal years. The *African Central Government Debt: Statistical Yearbook* provides information for African countries on:

- Outstanding amounts of marketable and non-marketable debt;
- Accumulations and reductions of marketable and nonmarketable debt of central governments;
- Term to maturity and refixing of marketable and nonmarketable debt;
- Ownership of local currency marketable debt; and
- Interest rates (yield-to-maturity, or YTM, in secondary markets).

10.115 The coverage of the data is therefore limited to central government debt issuance, as well as to bilateral, multilateral, and concessional loans provided to the central government. The data exclude debt of state and local governments, as well as social security funds.

10.116 Countries covered in the publication, as at 2010, are Angola, Cameroon, Kenya, Madagascar, Malawi, Morocco, Mozambique, Namibia, Nigeria, South Africa, Tanzania, Tunisia, Uganda, and Zambia.

10.117 Statistics are derived from national sources based on a questionnaire prepared under the auspices of the OECD. Concepts and definitions are based, where possible, on the *System of National Accounts, 1993 (SNA93)*. Individual country data are presented in a comprehensive standard framework to facilitate cross-country comparison.

10.118 Accompanying policy notes describe the details of debt instruments in each country and provide information on the institutional and regulatory framework as well as primary and secondary markets for debt instruments. African debt management offices constitute the principal source of information for the data on instruments and policies.

2. Activities linked to financial balance sheets (SNA)

a. Background

10.119 The WPFS contributes to the OECD's aim to deepen the knowledge of the financial systems of its member countries and provides a better understanding of the interactions between the real economy and financial activities in these economies. The WPFS monitors the collection of financial statistics and methodological information, including financial balance sheets that are part of the *SNA*'s sequence of accounts.

b. Debt of the general government and its subsectors

10.120 As a general rule, the entries in the *SNA* are not consolidated. However, for certain kinds of analysis, especially for the general government sector (S13), consolidation⁴⁴ may be most relevant. The OECD Financial Balance Sheets record stock positions of financial assets and liabilities held by the institutional sectors (of which the general government sector and its subsectors) on a consolidated and unconsolidated basis.

10.121 The following concepts are used⁴⁵:

- **Institutional sectors** are composed of institutional units grouped together into five main categories, of which **general government (S13)** is further divided into subsectors (S1311, S1312, S1313, S1314). These five categories form the **total economy** sector (**S1**), while all nonresident institutional units form the **rest of the world** sector (**S2**).
- The **general government sector (S13)** consists of general government entities which administer and finance activities, principally providing nonmarket goods and services, intended for individual or collective consumption, as well as nonprofit institutions which are controlled and mainly financed by units of the government. The major part of output of these units is provided free or at not economically significant prices. The S13 sector is further split into central government (S1311), state government (S1312), local government (S1313), and social security funds (S1314).

⁴⁴Consolidation involves the elimination of the transactions and stock positions between units belonging to the same institutional sector or subsector.

⁴⁵All concepts and definitions are based on the *SNA93*, although many correspond with the *2008 SNA*.

- **Stock positions** correspond to the amount of financial assets and liabilities at a point in time. The financial balance sheets also include a balancing item, the net financial worth (see Chapter 3 of this *Guide*).
- **Financial assets and liabilities** are grouped into seven instrument categories, with most of them divided into subgroupings, which are based on their liquidity: monetary gold and SDRs (F.1), currency and deposits (F.2), securities other than shares (F.3), loans (F.4), shares and other equities (F.5), insurance technical reserves (F.6), and other accounts receivable/payable (F.7). All assets have a counterpart liability, except for F.1.
- **General government gross debt** covers all liabilities (short- and long-term) from instrument AF.2 to instrument AF.7, for all institutions of the general government sector (S13) which includes the central, state, and local governments, as well as the social security funds subsector. Central government gross debt covers all liabilities of the central government subsector (S1311).
- In **consolidated accounts** stock positions of financial assets and liabilities between subsectors of the same sector and between institutional units of the same subsector are eliminated. Such accounts better reflect the financial position of the various economic players.
- **Valuation** is in line with the general valuation principles described in the *SNA*, that is, at current market prices whenever they are regularly traded on organized financial markets. Also, financial assets and liabilities are assigned the same value in the balance sheets whether they appear as assets or liabilities.

10.122 Based on a Joint OECD/Eurostat questionnaire, statistics are derived from national sources, mainly central banks and national statistics offices. These statistics cover the financial balance sheets of all OECD countries.

H. Paris Club Secretariat

10.123 The Paris Club has developed procedures for the collective rescheduling of official bilateral debt since the 1950s, when Argentina approached bilateral creditors. The Club is an ad hoc organization of creditor countries (mainly OECD members) that responds to requests for debt relief with respect to guaranteed export credits and intergovernmental loans.

10.124 Debts to Paris Club official creditors are now restructured through the Paris Club, especially since Russia became a member of the Club in 1997. Debts to commercial banks are typically restructured through consortia of commercial banks. Noninsured supplier credits and debts to governments that do not participate in the Paris Club are normally restructured through bilateral negotiations.

I. Paris Club

10.125 The Paris Club is an informal group of creditor countries. The French Treasury maintains a permanent secretariat, and a senior official serves as Chairman, to administer the Paris Club on behalf of other creditor countries. There are 19 permanent members; nonmember creditor countries may be invited to take part in meetings⁴⁶ for the treatment of the debt of a specific debtor country if they have significant claims on that country. The Club meets virtually every month in Paris, both for discussion of debt issues among the permanent members and for the rescheduling of the debt of a specific debtor country.

10.126 Countries facing difficulties in servicing of debt to official bilateral creditors will approach the Chairman of the Paris Club and ask to be considered for relief. The creditors at their monthly meeting will agree to hear that country's application, provided that an IMF-supported adjustment program is in place and that there is a financing need that requires rescheduling. Agreement is normally reached in face-to-face negotiations or by mail if there are very few creditors. The Paris Club can "treat" debt owed (contracted or guaranteed) by the government and/or the public sector of the debtor country to creditor countries or their appropriate institutions: officially guaranteed export credits and bilateral loans. The representatives of the creditor countries at the Paris Club decide on the period over which debt relief will be given (known as the consolidation period), the debts that will be included (current maturities, possibly arrears, possibly previously rescheduled debt), and the repayment terms on consolidated debt (grace and repayment periods).

10.127 Two types of "treatment" may be implemented by the Paris Club:

- Flow treatments of usually both scheduled amortization and interest payments falling due in a given period; and
- Stock treatments of the entire outstanding principal at a given date, for countries with a good track record with the Paris Club if this would ensure an end to the rescheduling process.

10.128 Paris Club negotiations result in a multilateral framework agreement (Agreed Minute), which must be followed up with bilateral implementing agreements with each creditor agency. The interest rate on rescheduled debt (known as moratorium interest) is not arranged at the Paris Club but is negotiated bilaterally, reflecting market rates.

10.129 At the beginning of the debt-relief process, Paris Club creditor countries will establish a "cutoff date." This means that all loan contracts signed after that date are generally not eligible for debt relief by the Paris Club.⁴⁷ The aim is to help the debtor country reestablish its creditworthiness by paying new obligations on their original schedules. Even though debt relief may extend over many years through a succession of Paris Club agreements, the cutoff date will usually remain unchanged.

10.130 It was increasingly recognized in the 1980s that some low-income countries with high external debt were facing solvency and not only liquidity problems. Over the years, the Paris Club has provided increasingly concessional rescheduling terms to low-income countries. The level of debt reduction on commercial claims was gradually increased from Toronto terms (1988—33.33 percent debt reduction) to London terms (1991—50 percent debt reduction) to Naples terms (1995—50 percent to 67 percent debt reduction), to Lyon terms (1996—80 percent debt reduction) and to Cologne terms (1999—90 percent reduction or more if needed under the HIPC Initiative).

10.131 In 1996, the debt initiative for heavily indebted poor countries (HIPC) was established, leading for the first time to multilateral creditors providing debt relief to a country. The Paris Club provides its debt-relief effort in the context of the HIPC Initiative through the use initially of Lyon terms, and now of Cologne terms.

⁴⁶As at 2010, the following countries that are not permanent members have participated as creditors in some Paris Club agreements: Abu Dhabi, Argentina, Brazil, Israel, Korea, Kuwait, Mexico, Morocco, New Zealand, Portugal, South Africa, Trinidad and Tobago, and Turkey.

⁴⁷Loan contracts signed after the cut-off date can nevertheless be partly or fully cancelled in the framework of the Enhanced HIPC Initiative when this cancellation is needed to restore the sustainability of the debtor country concerned at completion point.

10.132 A country benefiting from Paris Club debt relief commits to seek at least similar restructuring terms from its other external creditors (other than multilateral creditors, which only provide debt relief to countries eligible for assistance under the HIPC Initiative). This applies to non-Paris Club bilateral creditors, who generally negotiate with the debtor country on a bilateral basis, as well as private creditors (suppliers, banks, bondholders, etc.).

10.133 The HIPC Initiative demonstrated the need for creditors to take a more tailored approach when deciding on debt treatment for debtor countries. Hence in October 2003, Paris Club creditors adopted a new approach to non-HIPCs: the “Evian Approach.”

10.134 Paris Club agreements may include a debt-swap provision, within a limit usually set at 20 percent of commercial claims. Paris Club creditors on a bilateral basis conduct debt-swap operations. Since 1997, the Paris Club is also allowing debtor countries to prepay their debt. In recent years, the Paris Club offered new flexibility in this respect, allowing prepayments at market value of some claims.

2. Commercial bank debt relief

10.135 Multilateral debt relief is much more difficult to organize for commercial banks than for official creditors. While a national export credit insurer can negotiate on behalf of any individual creditor, there is no way to consolidate national commercial bank claims. Rather, each creditor bank must approve the resulting agreement and, for loan syndication, the number is often in the hundreds.

10.136 The pattern of negotiations was established in a 1970 agreement between the Philippines and its commercial bank creditors. Creditor banks form a committee (sometimes known as the London Club) of about a dozen people who represent the major creditor banks. The composition of the committee—which can be completely different from case to case—takes into account the nationality of the banks in the consortium so that the negotiations can make provision for the different tax and regulatory systems that affect banks of different countries. The committee negotiates an “agreement in principle” with debtor country representatives. After all creditor banks approve this agreement, it is signed. It takes effect when certain requirements are met, such as payment of fees and of arrears. As with the rescheduling of debts to official creditors, banks provide debt relief normally in the context of a debtor country’s adjustment program supported by an IMF

arrangement. Unlike with Paris Club creditors, there is no “cutoff” date.

10.137 Commercial bank agreements restructure principal; consolidation of original interest costs is rare. Like Paris Club agreements, consolidation of short-term debt is also unusual (but, when a major portion of arrears has arisen from short-term debt, there is often no option but to restructure). Among the initiatives for reducing the commercial debt burden was the Brady Plan (1989). This market-based debt-restructuring initiative provided a menu of options to the creditor banks. These included buybacks—the debtor government repurchases debt at a discount that is agreed upon with the creditor banks; an exchange of debt into bonds at a discount but offering a market rate of interest (discount bonds); and an exchange at par into bonds that yielded a below-market interest rate (interest-reduction bonds). The discount bonds and the interest-reduction bonds were fully collateralized by zero-coupon U.S. government securities for principal and partially collateralized for interest payments.

I. United Nations Conference on Trade and Development (UNCTAD)

10.138 UNCTAD is the focal point within the United Nations system for the integrated treatment of debt issues. Through its Debt and Development Finance Branch (DDFB), it engages in research and policy analysis as well as technical assistance.

10.139 UNCTAD is entrusted with the preparation of the United Nations Secretary-General’s annual report to the UN General Assembly on the external debt problems of developing and transitional economies. This report analyses the latest trends and emerging issues and puts forward policy recommendations. UNCTAD also provides substantive support to the UN General Assembly deliberations of the agenda item on debt.

10.140 In addition, UNCTAD conducts, inter alia, research on the analytical framework for debt sustainability analyses, domestic debt, bond markets, as well as institutional arrangements for debt management.

10.141 UNCTAD provides selective advisory services to debtor countries in designing sustainable public debt strategies and related negotiations such as Paris Club debt renegotiations. DDFB also works toward promoting responsible sovereign lending and borrowing, and public debt risk management.

10.142 UNCTAD's DDFB also offers a broad range of technical assistance services to developing countries in strengthening their ability to effectively manage their public debt. This technical cooperation is provided by the Debt Management and Financial Analysis System (DMFAS) Program.

I. Overview of the Debt Management and Financial Analysis System (DMFAS) Program

10.143 UNCTAD's Debt Management and Financial Analysis System (DMFAS) Program has been successfully helping governments improve their capacity to manage debt since the early 1980s. By 2010, it has supported 66 countries and 102 institutions. As the debt situation of developing countries has evolved over the past three decades, the DMFAS Program has adapted its technical assistance to countries' changing debt management needs.

10.144 The DMFAS Program offers countries a set of proven solutions for improving their capacity to handle the management of public liabilities and produce reliable debt data for policymaking purposes. This includes its specialized debt management software, the DMFAS—which greatly facilitates the work of the debt office—as well as advisory services and training activities in debt management.

10.145 The products and services offered by the DMFAS Program are continuously updated in line with countries' new requirements and in accordance with best practices in debt management. They are shared with countries through technical cooperation projects, as well as through international and regional conferences and workshops. As part of the United Nations, the Program's technical assistance is available to all countries at their request. It is provided in Arabic, English, French, and Spanish.

10.146 The Program provides continuing support to DMFAS-user countries, beyond the completion of country project activities, including through its Help-desk service.

10.147 The Program provides the following:

- Capacity-building through the debt management and financial analysis software (DMFAS) designed to meet the operational, statistical, and analytical needs of debt managers and bodies involved in elaborating public debt strategies, and training in its use;

- Capacity-building through the Program's advisory services, including needs assessments and advice on technical, administrative, legal, and institutional debt management issues, assistance in software installation and maintenance;
- Capacity building in debt management skills and through the Program's modules in debt data validation, statistics, and debt analysis.

10.148 Details on the DMFAS debt management system are provided in the annex to this chapter.

2. DMFAS advisory services

10.149 At the invitation of a government institution, UNCTAD will conduct a needs assessment of that institution's capacity to manage its country's debt. UNCTAD and the government will then work together on defining those areas of debt management that would be improved with the support of the DMFAS Program. All defined activities will be outlined in a technical cooperation project document and submitted to potential funding agencies. Project implementation will start on approval of the document by all parties. Through such a project, the Program gives advice, for example, on the installation and use of the DMFAS system, on its integration with other financial management systems, on database building, on debt strategies, on communication and information flows, financing techniques, credit analysis and debt renegotiation, among other areas. This advice will also continue after the completion of each project, through such services as its Help Desk support.

3. DMFAS training and capacity building

10.150 The Program offers a full range of training and broader capacity building services, ranging from functional and technical training on the DMFAS System, including on different types of debt instruments and production of a range of reports designed for different target audiences, through analysis and linkages with other systems. It also provides comprehensive capacity building modules in the areas of debt data validation, debt statistics and debt portfolio analysis. These modules are intended to support the government authorities, not only to acquire knowledge and skills in the respective areas, but also in applying these to develop defined outputs, which the government (usually the Minister of Finance and/or the Governor of the Central Bank) commits to continue production in a

sustainable manner. These outputs are data validation calendars, debt statistics bulletins and debt portfolio reviews, and these are intended to apply the latest international standards.

10.151 A bottom-up approach is adopted in the delivery of these capacity building activities. This starts with assistance in the creation of a debt database (installation of the DMFAS software, training, registration of debt information, validation of debt data), followed by training in the generation and production of reliable debt statistics (including debt statistics bulletins), and followed by assistance in performing debt portfolio analysis (appropriateness of the debt portfolio composition) and in understanding the concepts of debt sustainability analysis. Training is delivered nationally and regionally.

4. UNCTAD's Debt Management Conference

10.152 Every other year, UNCTAD organizes an international conference on debt management. The Conference brings together representatives from governments, mostly from country capitals, international organizations, the private financial and legal sector, academia, and civil society. The Conference serves as a discussion forum for countries on many of the most pertinent issues in debt management and public finance, with its ultimate objective being to help developing countries manage their debt more effectively. This meeting also provides an excellent opportunity for debt managers and policy makers around the world to interact and share experiences.

5. Other activities

10.153 The DMFAS Program also supports other international organizations in developing capacity in debt management. One important initiative is the World Bank's Debt Management Facility (DMF). The two main products of this facility are the Debt Management Performance Assessment (DeMPA) tool, which is designed to assess a country's debt management capacity, and the Medium Term Debt Strategy (MTDS), an Excel-based tool designed to support countries in developing and updating their debt strategies.

10.154 UNCTAD is also providing comprehensive support to the INTOSAI Development Initiative (IDI), in its program of strengthening the capacities of Supreme Audit Institutions to conduct a public audit. This is delivered through a formal memorandum of understanding

with IDI, through which the DMFAS Program is providing expertise to IDI to develop training material, to deliver comprehensive training to auditors of national supreme audit institutions, to review national draft audit plans, and to undertake related support to all these activities. The Program also participates in IDI debt management seminars and workshops, and the DMFAS software is also adapted to meet IDI requirements.

6. DMFAS and the Public Sector Debt Statistics Guide

10.155 DMFAS system is consistent with the *Public Sector Debt Statistics Guide*. Efforts have been taken to ensure that core conceptual foundations are consistent. This includes the areas of definition, coverage, valuation, present value calculations, classifications, and reporting:

- **Definitions.** All definitions of debt, public sector debt, and related terms are consistent.
- **Coverage.** DMFAS addresses most of the instruments included in this *Public Sector Debt Statistics Guide*. Some information on instruments, such as arrears due to suppliers, is not generally incorporated, but this can be done if the data are available.
- **Valuation.** Valuation of stocks and flows are consistent. Stocks are valued at end-of-period exchange rates, and transactions on the day of the transaction. Market valuation of the instruments is also possible.
- **Present Value.** Present value calculations are also incorporated into DMFAS, using the sets of currency-specific interest rates as required, such as CIRR.
- **Classifications.** DMFAS also incorporates the all the classifications incorporated in the *Public Sector Debt Statistics Guide*, including by debtor sector, instrument, and maturity (original and residual). In addition, many other types of classifications included, including by creditor, guarantee status, and economic sector.
- **Reporting.** DMFAS provides a comprehensive set of reports, which are consistent with the core tables in the *Public Sector Debt Statistics Guide*. It also has a flexible reporting methodology which allows the user to customize reports, and generate a substantial set of reports, to meet the additional specific requirements of the institution/country.

J. World Bank

10.156 The World Bank collects and disseminates data on general government and the public sector debt. These data are collected and published quarterly. The data use classifications and definitions following this *Guide* and are consistent with those in other macroeconomic data: the *SNA*, *Balance of Payments and International Investment Position Manual*, *External Debt Statistics*, *Government Finance Statistics Manual*, *Handbook of Securities Statistics*, and *Monetary and Financial Statistics Manual*.

10.157 The World Bank's interest in public sector debt statistics is both analytical and operational. At the analytical level, the Bank is a leading international source of information and analysis on the economic situation of developing countries. Through the Government Debt Management Performance Assessment (DeMPA), the Bank assesses public sector debt management performance through a comprehensive set of performance indicators spanning the full range of government debt management functions. At the operational level, the lending and borrowing activities of the Bank demand a close monitoring of the overall financial situation of each borrower, such as debt-servicing capacity.

10.158 In 2010, the World Bank and IMF, with the endorsement of the Inter-Agency Task Force on Finance Statistics (TFFS), launched the public sector debt (PSD) database, which is available on the World Bank's Web site.⁴⁸ The primary sources for these public sector debt data are ministries of finance, treasuries, and central banks.

⁴⁸See <http://www.worldbank.org/qpsd>.

10.159 The main purpose of the PSD database is to facilitate timely dissemination in standard formats of public sector debt data. By bringing such data and metadata together in one central location, the database supports macroeconomic analysis and cross-country comparison. Data on debt for general government are available and are essential for comparison with external debt data (that covers general government) and deriving domestic general government debt as the difference between total general government debt and the corresponding external debt.

10.160 The database is organized into five sets of tables on the following components of the public sector: budgetary central government, central government, general government, public nonfinancial corporations, and public financial corporations. The tables are designed to collect data by debt instrument, maturity, currency of denomination, and by residence of the creditor—consistent with the tables in Chapter 5 of this *Guide*.

10.161 The World Bank's public sector debt statistics website provides information on, and links to, complementary and related information sources, such as the Joint External Debt Hub,⁴⁹ Quarterly External Debt Statistics,⁵⁰ BIS banking and securities data, the IMF Coordinated Portfolio Investment Survey, annual *Government Finance Statistics (Government Finance Statistics Yearbook)*, and *International Financial Statistics*.

⁴⁹See <http://www.jedh.org>.

⁵⁰See <http://www.qeds.org>.

Annex: Debt Recording, Debt Management, and Financial Analysis Systems

This annex provides details of the Commonwealth Secretariat's software suite for debt management and UNCTAD's debt management and financial analysis system (DFMAS).

I. The Commonwealth Secretariat Debt Management Solutions (CS-DMS)

10.162 The Commonwealth Secretariat's Debt Management Solutions (CS-DMS) comprises a suite of three software products: CS-DRMS, CS-SAS, and CS-PDAT.⁵¹ In 2011, the software has been deployed in 60 Commonwealth and non-Commonwealth countries, across more than 100 sites in finance ministries, central banks, treasuries, accountant general offices, and provincial governments.

a. Major functionalities

i. CS-DRMS

10.163 CS-DRMS is an integrated tool for recording, monitoring, analyzing, and reporting public and publicly guaranteed debt. As well as providing a comprehensive repository for all types of external and domestic debt (including securities) and guarantees on an instrument-by-instrument and aggregate basis, it allows users to record and manage private sector debt and grants. The system can be used across the entire cycle of debt operations and transactions within a country starting from loan negotiation/issuance of a security until its redemption.

10.164 The system has been designed with the user in mind. It has a user-friendly graphical interface that allows the debt manager to review the government's borrowing and associated transactions quickly and easily, through various aggregations (see Figure 10.1).

10.165 CS-DRMS adheres to international standards and conventions in the way that debt data are recorded, including aspects of coverage compilation, accounting, classification, valuation, and reporting. This makes

the system compliant with the recording and reporting requirements as prescribed by the debt statistics compilation manuals (this *Guide* and *the External Debt Statistics: Guide for Compilers and Users*) developed under the aegis of the Inter-Agency Task Force on Finance Statistics.

10.166 CS-DRMS can be configured easily to support specific debt management operations and provides a number of controls and validations to ensure data is stored accurately and safely. Its holistic approach offers a wide range of functionalities and a robust, secure, and open architecture allowing interfaces with third party systems.

10.167 The system is continually being enhanced to reflect changes in debt management, creditor practices, debt reporting standards, and technology to stay in tune with the evolving changes and also to cater to the varying needs of client countries. The main functions of CS-DRMS are summarized here and in Table 10.1.

Debt recording

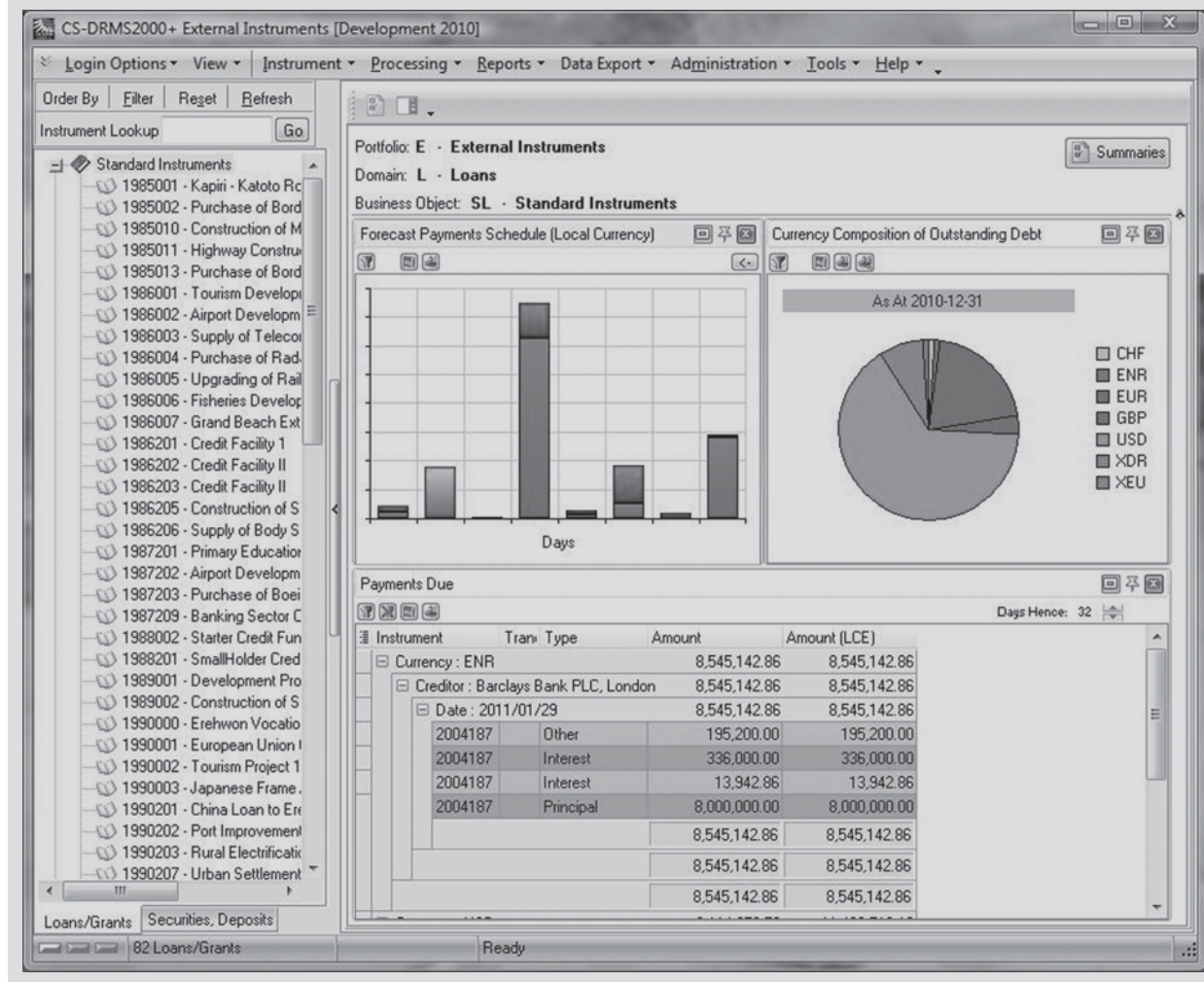
10.168 CS-DRMS is an integrated system that records various types of flows—external and domestic debt, grants, and government lending—for day-to-day administration and management of various debt operations. It has a comprehensive loans module that allows for the recording of a wide range of official and commercial instruments, including short-term debt and private sector debt. Its comprehensive securities module allows for the recording of various types of government securities including Treasury bills, bonds (fixed, floating, discount, and indexed instruments), promissory note, and commercial papers. Sovereign bonds issued on international capital markets can also be recorded in CS-DRMS.

10.169 Forecasts of debt-service payments are generated based on instrument characteristics and can be compared with actual transactions in the system. Based on these data, the system automatically updates the outstanding debt stocks and projected flows, including any arrears.

10.170 A dedicated disbursement module offers facilities for recording and tracking various types

⁵¹CS-PDAT will be released by the end of 2011.

Figure 10.1. The Commonwealth Secretariat's CS-DRMS



of disbursements (for example, reimbursement, cash advance, direct payment) for project implementation. The module can be used to capture the government chart of accounts and expenditure line items and produce reports in budget and chart of accounts format.

Debt reporting

10.171 CS-DRMS has a fully customizable and flexible reporting facility. More than 100 standard reports are made available within the system and these meet most countries' needs relating to operational, analytical, and statistical functions. Where additional reports are required, users are able to create their own reports through a user-friendly reporting wizard and an advanced reporting tool.

10.172 The system fully complies with the international reporting requirements of the SDDS, GDDS, QEDS, Debtor Reporting System (DRS), and Public Sector Debt (PSD) Statistics Database initiatives under the IMF and World Bank. In addition, CS-DRMS has a number of in-built reports complying with the templates prescribed under the various data dissemination initiatives. The system also provides automatic links to the World Bank Debtor Reporting System and GDDS-QEDS.

Debt analysis

10.173 CS-DRMS has comprehensive analytical features that allow easy analysis of the entire debt portfolio. The analysis module provides a number of port-

Table 10.1. Major Functions of the Commonwealth Secretariat Debt Recording and Management System (CS-DRMS)

Recording and management	Reporting	Analysis	Other functions
<ul style="list-style-type: none"> • Maintain an inventory of all external and domestic debt instruments (and grants), including: <ul style="list-style-type: none"> • public sector debt and guarantees • short-term and private sector debt • restructuring agreements, including rescheduling • Record all of the terms and conditions of instruments, including a copy of any related documentation • Record other relevant information such as exchange rates, interest rates, and macroeconomic data • Forecast debt-service payments, both by instrument and in aggregate terms, with and without future disbursements • Record actual transactions of debt service and disbursements on a transaction-by-transaction basis • Identify debt in arrears and calculate penalty payments • Monitor loan and grant utilization and disbursements • Record and monitor guarantees, lending, and on-lending • Manage the portfolio through restructuring and using derivatives 	<ul style="list-style-type: none"> • Fully adheres to international debt data compilation standards (for example, the guides on public debt statistics and external debt statistics) • More than 100 standard reports to meet various reporting requirements for operational, analytical, and statistical functions • In-built reports based on the international reporting templates of SDDS, GDDS, Debtor Reporting System, and Public Sector Debt • Provide information and reports on any instrument or class of instruments • Easy generation of customized reports to comply with any other reporting requirements • Transfer data electronically to the World Bank's Debt Reporting System and GDDS-QEDS • Export data for use in other analytical tools such as the IMF-World Bank's MTDS toolkit and the DSA templates for low and middle income countries 	<ul style="list-style-type: none"> • Perform sensitivity analysis on interest and exchange rate variations under various scenarios • Test the implications of new borrowings, based on different assumptions of currencies, interest, and repayment terms • Evaluate different loan options • Evaluate different proposals for refinancing and rescheduling of loans and compute debt relief requirements • Combine CS-DRMS debt data with exogenous economic data to project critical debt indicators, on both a nominal and present value basis • Compute various cost and risk indicators and evaluate the exposure to different types of risks (for example, exchange rate, interest rate, rollover, refinancing) 	<ul style="list-style-type: none"> • Validation tools to ensure database integrity and accuracy • Integrate front, middle, and back office functions via the database and security management options • Reduce operational risk by controlling access and performing functions such as backup and restore • Easy integration with other financial management information systems to enhance efficiency and minimize operational risk <p>Future developments</p> <ul style="list-style-type: none"> • Web-enabled for online recording and reporting • Full capabilities for accrual accounting and market valuation • Enhanced capabilities for assessing and monitoring contingent liabilities

folio analysis functions to summarize the characteristics of the debt portfolio including the creditor profile, currency composition, maturity profile, types of interest and interest rates, and an array of risk indicators.

10.174 Users can create their own projections of macroeconomic variables and borrowing scenarios to analyze their impact on the portfolio. The key debt ratios are reported as standard in the analysis but other ratios can be defined to meet specific country needs. The results of the analysis are presented in a graphical format and can be exported to third party applications, such as Microsoft Excel, for further analysis and manipulation. CS-DRMS also has facilities to generate data

as in-built reports in the prescribed templates (both low income and market access country templates) for debt sustainability analysis under the DSA-DSF framework and also for the Medium-Term Debt Strategy (MTDS) toolkit as part of the MTDS framework, both developed jointly by the IMF and World Bank.

Debt restructuring

10.175 CS-DRMS incorporates comprehensive facilities to manage debt restructuring. In addition to handling refinancing, buy-backs, and derivatives (embedded options, swaps, etc.), the system also has specialized functionality for restructuring through the

London Club and Paris Club, including through the HIPC Initiative and MDRI.

Integration with financial management information systems

10.176 Beyond interfaces to reporting portals and established debt management tools, CS-DRMS can be linked to integrated financial management information systems (IFMIS). Besides providing the technical solution for such integration in any particular client country, the Secretariat also supports countries in analyzing their business processes to maximize the efficiency gains from such integration.

ii. CS-SAS

10.177 CS-SAS helps debt offices involved in the auction of securities to manage every stage of the auction process, from the day of notification until payment is received from successful bidders and allotment letters are produced electronically. The major capabilities of the system include:

- Auctioning different types of instruments, including Treasury bills and bonds;
- Allows various auction types, including uniform price and bid price;
- Allows both yield based and price based bidding processes;
- Process both competitive and noncompetitive bids;
- Recording of payments for successful bids;
- Commission payment to primary dealers;
- End-to-end workflow management; and
- Links to CS-DRMS/other systems for transferring successful bids.

10.178 CS-SAS provides a number of operational reports for auctioning, which are further complemented by various analytical reports to analyze data from past auctions. The bid-cover and yield movements of past auctions are represented in a graph that compares the notified, bid, and allotted amounts. The progress of auctions can be monitored in real time whilst the performance of different auctions can be compared (see Figure 10.2).

10.179 The Secretariat also offers a Web-based bidding system that allows bidders to place bids elec-

tronically and manage their bids in a secure online environment (see Figure 10.3).

iii. CS-PDAT

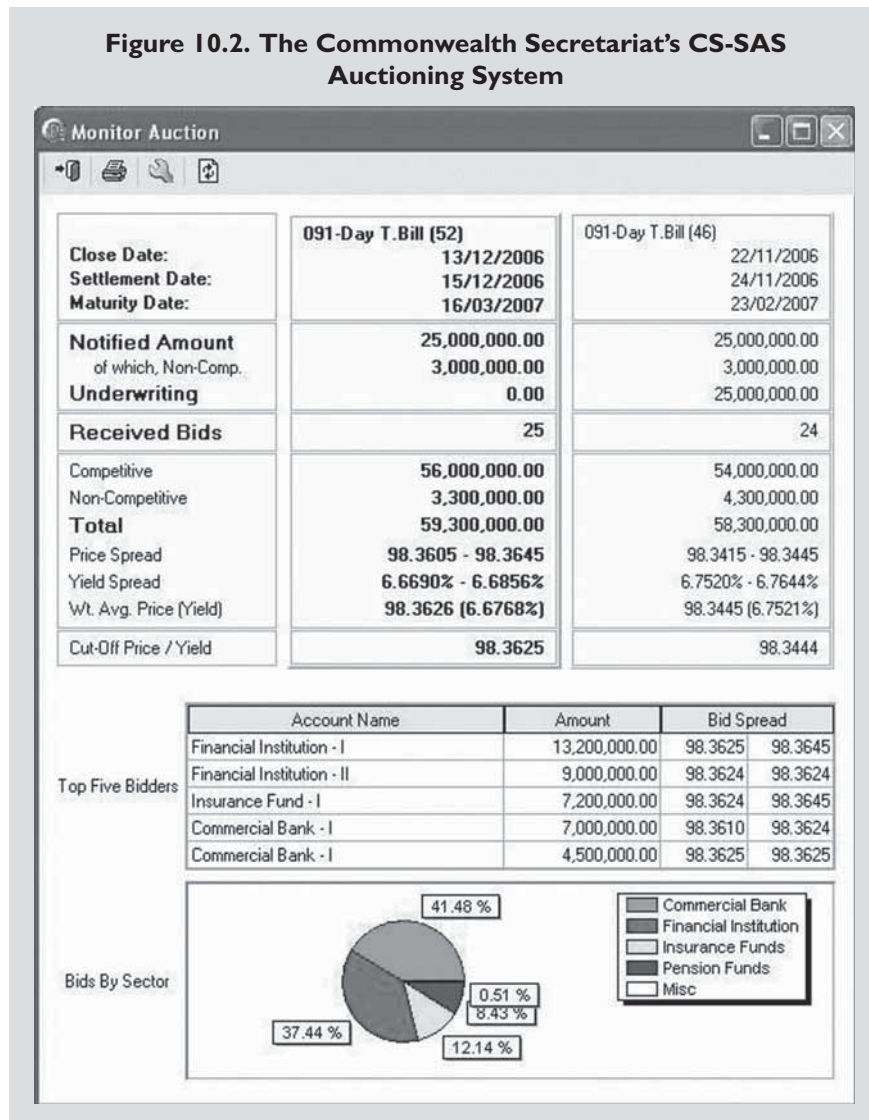
10.180 CS-PDAT is a specialized middle office/front office decision support system designed to enable public debt managers to prudently manage their debt through a cost and risk focus. The tool is based on an integrated framework for the development and implementation of a debt management strategy and enables debt managers to develop and assess the costs and risks of alternative borrowing strategies (see Figure 10.4). The tool also enables debt managers to implement and monitor their desired strategy through the integration of cash and debt management, development of an annual borrowing plan including an issuance calendar and liability management operations (for example, buybacks, exchanges, embedded options, restructuring, and swaps). Whilst part of CS-DMS, it has been designed to interface with any debt recording software for importing the debt portfolio data.

10.181 The tool gives debt managers the ability to carry out a range of analysis, from basic to advanced, on the entire public debt portfolio. It focuses on the costs and risks associated with different borrowing strategies under different scenarios for analyzing alternative strategies. Various market risks and refinancing risks are extensively analyzed through the application of the CS-PDAT system.

10.182 Once the desired strategy is selected, CS-PDAT allows the debt manager to implement the strategy through the development of an annual borrowing plan, including the simulation of an issuance calendar for government securities. For the development of the domestic debt market, the system specifically supports the building up of benchmark bonds through reopenings of existing securities.

10.183 For implementing a specific strategy within CS-PDAT, various liability management operations, such as buy-backs, exchanges, prepayment, refinancing, swaps, and the exercise of embedded options, can be analyzed through its impact on the portfolio. Such liability management operations can also be included as part of the annual borrowing plan for comprehensive debt management planning. The system will also trigger the need for certain liability management operations based on any limits on refinancing risk stipulated by the debt manager.

Figure 10.2. The Commonwealth Secretariat's CS-SAS Auctioning System



10.184 Finally, the system incorporates lending strategies and operations to allow a holistic analysis of any debt management strategy within an asset-liability risk management framework.

b. System security

10.185 The CS-DMS suite incorporates fully user-configurable multilayer security features to meet individual country requirements. The security setup allows for configuration of workgroups and roles to match the country's own setup, such as the front, middle, and back office model. The users can be assigned appropriate roles to restrict their access to screens and reports as per the security setup.

c. Technological characteristics

10.186 The software products operate on both Oracle and Microsoft SQL Server as backend databases. The software is available in both English and French, and has language-independent design to facilitate translation into other languages.

10.187 The software has a Help facility, both on-line and in hardcopy, that is supported by a frequently asked questions section on the DMS website and hotline support from the technical staff located in the headquarters in London.⁵²

⁵²For further information, see <http://www.dsdrms.org>.

Figure 10.3. The Commonwealth Secretariat's Online Bidding System

Commonwealth Secretariat

You are logged in as org4 [Logout](#)

Auctions User Reports

Agency: Account No:

Current Auctions Previous Auctions

Instruments Maturity Period [Show All](#)

Auction No	Description	Close	Status
157	BOND 3 YEAR9	09/03/2010	Complete
158	091-Day T.Bill	19/02/2010	Closed
153	091-Day T.Bill	19/02/2010	Results Published
149	091-Day T.Bill 16/04/2010	15/01/2010	Complete
56	364-Day T.Bill - 22/12/2006	20/12/2006	Closed
55	091-Day T.Bill - 22/12/2006	20/12/2006	Closed
54	5-Year Bond 2006 @10.70% - Reissue	13/12/2006	Closed

Summary Bids

Select Status... [Show All](#)

Bid No	Amount	Price	Source	Competitive	Status	Allotted Amount	Allotment Price	Allotment Yield	Cost Price	Payment Amount
1.979	600,000.00	97.89	Online	Y	Paid	600,000.00	97.89	12.31	587,340.00	647,340.00
1.978	100,000.00	67.89	Online	Y	New					
1.977	700,000.00	98.78	Online	Y	Cancelled					
1.976	200,000.00	0.00	Online	N	Paid	200,000.00	97.89	12.31	195,780.00	215,780.00
1.975	100,000.00	99.78	Online	Y	Paid	100,000.00	99.78	10.24	99,780.00	109,780.00

2. The DMFAS debt management system of UNCTAD

a. Introduction

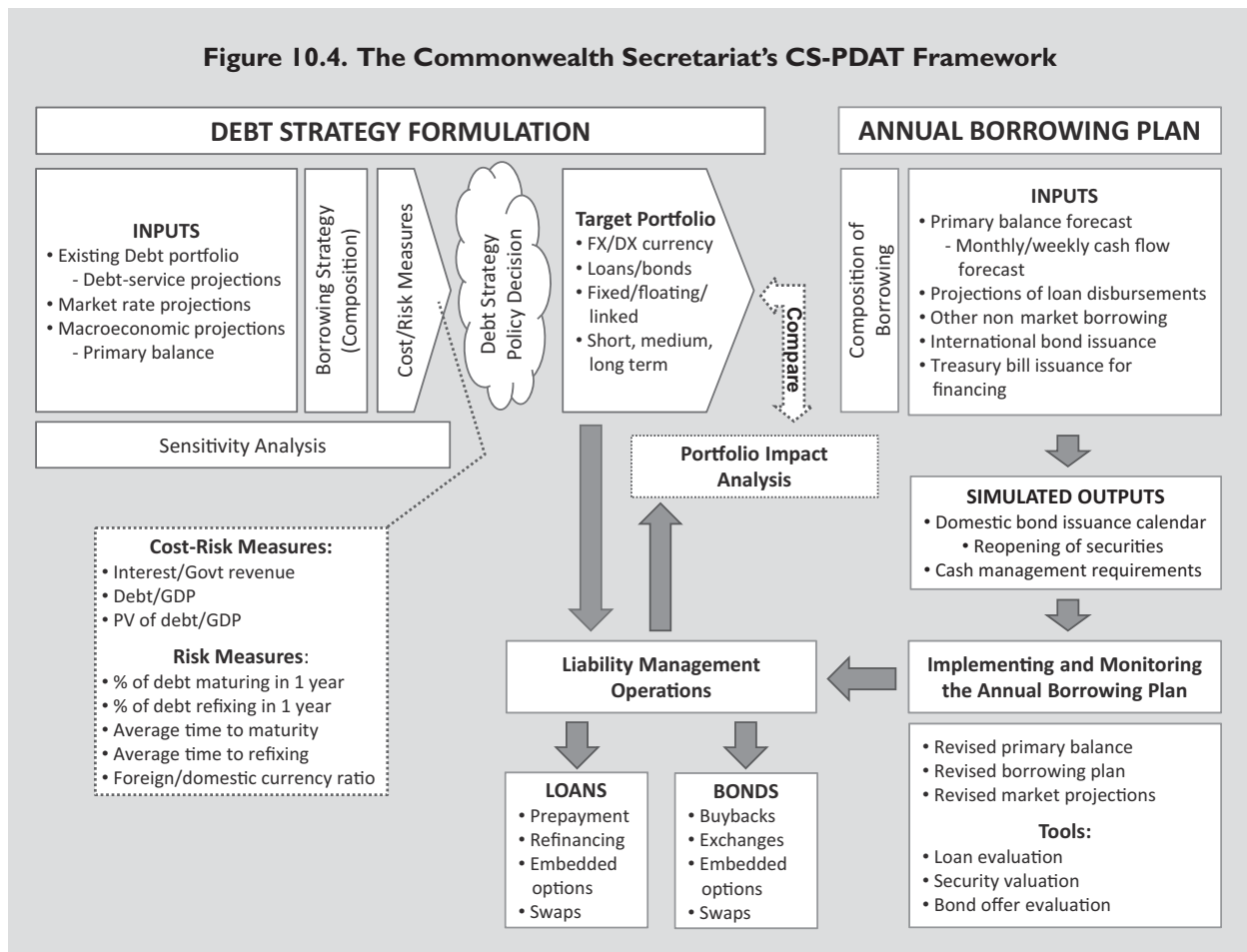
10.188 The DMFAS is specialized debt management and financial analysis software, developed with, and for, countries. It can be used for the management of public and publicly guaranteed short- and long-term debt (external and domestic), general agreements, grants, private sector nonguaranteed external debt, as well as on-lending operations and debt reorganization. It is regularly enhanced so that it remains current with, and helps establish, best practices in debt management. In order to improve overall public financial management, the DMFAS is easily linked with other financial management systems.

10.189 DMFAS 6 was launched in November 2009. DMFAS 6 contains a Web interface (portal) that provides centralized access to all DMFAS modules, infor-

mation, applications, data, and links that are commonly used by its users. It also contains an online help facility. The DMFAS interface can be easily customized, modified and translated. The standardized version is available in five different languages—English, French, Spanish, Arabic, and Portuguese. It can be used both in a single-user and in a networked environment (intranet or extranet). User profiles and access privileges are defined in the system's security module. The main features of DMFAS 6 are shown in Figure 10.5.

10.190 All modules can be accessed easily and independently, according to the user's customized needs. They are organized to follow the typical operational life cycle of a debt agreement (Administration, Mobilization, and Debt Service) complemented by Negotiation (for debt securities), Reports, and Analysis functions. These cover the comprehensive needs of a debt management

Figure 10.4. The Commonwealth Secretariat's CS-PDAT Framework



office, whether they are front (issuance of debt securities), middle (analysis), or back office (registration and management of operations) tasks.

b. Modules of DMFAS 6

i. Negotiation

10.191 Negotiation in DMFAS refers to the first phase in the life cycle of a debt instrument. It contains an auctions module. This module is used to record bids on bills or bonds on a single price/yield basis (noncompetitive auction) or multi-price/yield basis (competitive auction). Both successful and unsuccessful bids are maintained in the DMFAS database for a defined period in order to monitor investor and bidder participation in the primary market. The data can be sent automatically to the Debt Securities module where it appears in the Subscriptions data for the instrument. The data on the transactions is used to calculate the pricing and valua-

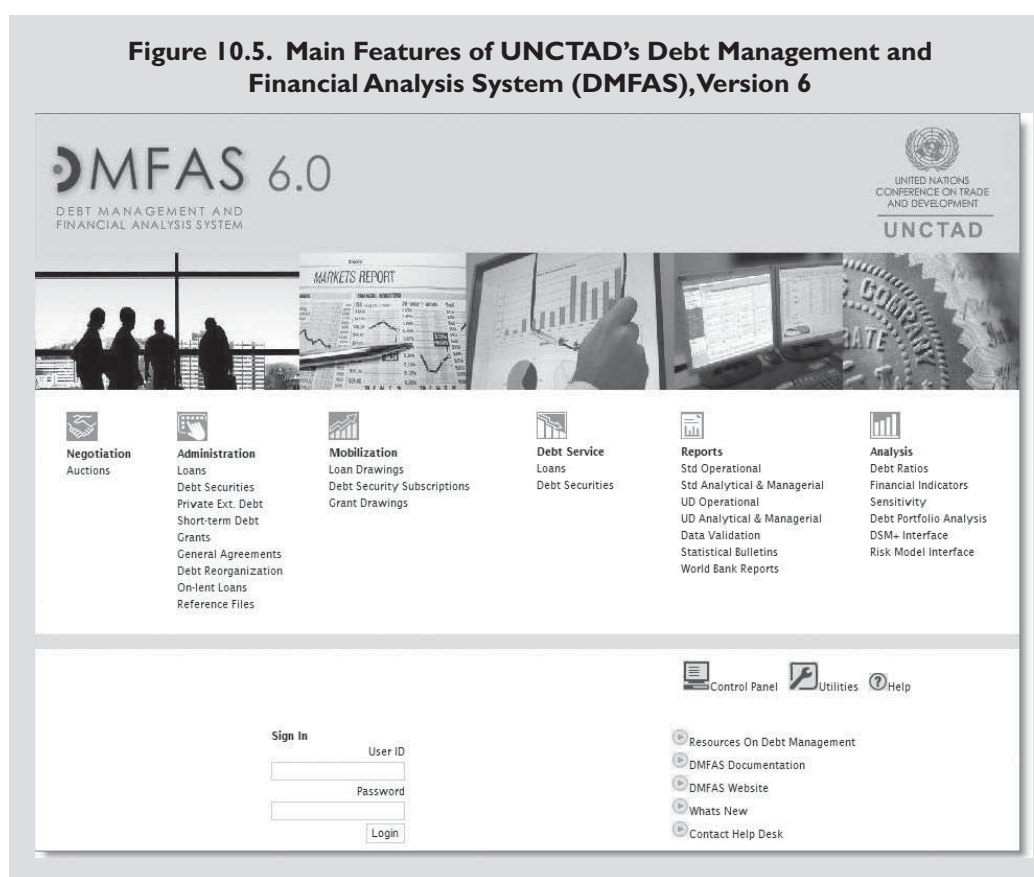
tion of the instrument, such as the clean price and dirty price (see Chapter 2, paragraph 2.119).

ii. Administration

10.192 Under Administration, the user can register general and detailed information for any type of debt agreement by accessing the relevant module for loans, debt securities, private nonguaranteed external debt, short-term debt, grants, general agreements, debt reorganization, on-lent loans, as well as reference files.

10.193 In the Loans module, general information is recorded about a loan agreement such as the parties, the loan ID, and signature. Specific information such as the principal, interest, and commission terms is also recorded. Each loan recorded includes its own set of tranches, with each tranche representing a distinct part of a loan as defined by the creditor in the detailed payment schedules sent to the debtor. Each individual

Figure 10.5. Main Features of UNCTAD's Debt Management and Financial Analysis System (DMFAS), Version 6



amortization defined by the creditor is represented by the individual tranche in the system.

10.194 The Debt Securities module is used to register all types of debt securities from short-term to long-term. It is divided into four main categories of instruments:

- Money market instruments (discount, interest bearing);
- Bonds and notes (zero-coupon, fixed-rate, floating-rate, stepped-annuity, perpetual, other);
- Promissory notes (discount, interest bearing); and
- Other securities.

10.195 Private, nonguaranteed debt and short-term debt can be entered on an aggregate level, either manually or imported from other applications, such as a spreadsheet.

10.196 The general agreements module is designed to capture data about agreements that cover several individual instruments. A link can be set up between a general agreement and the agreements arising from it. There are various types of general agreements of

which the most common are frame agreements as well as those relating to reorganization (for example, Paris-Club Agreed Minutes).

10.197 The reorganization module can handle all types of debt reorganization including: refinancing, rescheduling, forgiveness, debt conversion and pre-payments (buybacks). This module handles all phases of the reorganization and maintains a relationship between the old debt and new debt.

10.198 The module for on-lent loans records loans borrowed by a government on behalf of public sector entities. The direct loan between the creditor and the government is recorded in the Loans module while the on-lent loan between the government as creditor and the public corporation is registered in the on-lent module.

10.199 Reference files are the starting point for work in DMFAS. They contain detailed information which can be referred to from many DMFAS windows. They include essential and optional data about the participants, exchange rates, budget lines, and financing relating to an agreement.

iii. Mobilization

10.200 DMFAS records all types of individual transactions related to loan drawings and grant drawings as well as debt security subscriptions.

10.201 In DMFAS, actual⁵³ loan drawings can be recorded in cash, in kind, or as a direct payment. Drawings take the form of a direct payment when the beneficiary (or debtor of a loan) requests the creditor to pay a third party directly from the loan. When an actual drawing is recorded, DMFAS automatically reduces the undisbursed amount of the relevant loan tranche, automatically recalculates estimated drawings of the tranche, and recalculates the amortization table. For grant drawings, the process is similar to that of loans.

10.202 In DMFAS, a subscription is the payment made to the issuer of a debt security by the subscriber, in the form of funds, goods or services. Users can record subscriptions according to the level of detail required by their institution. DMFAS provides two ways to enter subscriptions: through the Subscriptions module or the Debt Securities module.

iv. Debt Service

10.203 DMFAS 6 contains two debt service modules, for loans and for debt securities. They are intended for debt-service operations relating to principal and interest, commissions, and penalty interest.

10.204 DMFAS records and monitors the different types of debt-service operations: payments, nonpayments (i.e., arrears), prepayments (for loans), buybacks (for debt securities), rescheduling, forgiveness, swaps, and stripped securities. All debt-service operations can be entered and/or tracked in any currency.

10.205 This module also contains a budget period allocation submodule, which is intended for institutions that wish to link debt-service payments to their budget system.

v. Reports

10.206 The ultimate objective of recording data in DMFAS is to produce reports that are accurate, complete, and compliant with international standards. DMFAS can generate a wide range of standard and customized reports. These include aggregated or detailed

reports on loans, debt securities, grants, projects, general agreements, reorganization agreements, and reference files.

10.207 Standard reports are predefined reports delivered with the system. These are reports that have already been created by the DMFAS Program. This category of reports includes operational reports as well as analytical and management reports.

10.208 Standard operational reports include reports on loans, debt securities, projects, general agreements, grants, and reference files. Analytical and management reports consist of reports on debt status, reorganization, World Bank reporting, and general agreements involving revolving credits.

10.209 User-defined reports are reports created and generated by DMFAS users in any given country. Also categorized as either operational or analytical and management, these cover data validation, debt status and statistical bulletins. Data validation refers to predefined reports that allow checking the accuracy and consistency of the data recorded in the DMFAS database. Debt status and statistical bulletins are reports on external and domestic debt that generally adhere to international standards.

vi. Analysis

10.210 The Analysis modules offer powerful tools for middle-office debt managers to determine the sustainability of their debt portfolio and to build debt strategies. They cover: debt ratios, financial indicators, sensitivity, debt portfolio analysis, a debt sustainability interface, and a risk model(s) interface.

10.211 The Debt Ratios module in DMFAS covers public sector debt, external public sector debt, and domestic debt. The ratios include, among many others:

- Public Sector Debt/Gross Domestic Product (or PSD/GDP);
- External Public Sector Debt/Exports, at nominal and present value (or XPSD/XGS); and
- Domestic Public Sector Debt/Public Sector Debt (or DPSD/PSD).

10.212 The Financial Indicators module refers to the calculation in DMFAS of average terms and the grant element for a selected group of instruments; the results of the calculation appear in the reports. Average terms relate to the average interest rate, grace period, and life of a group of loans or debt securities.

⁵³There are two distinctions in “actual” drawings: “actual” as opposed to “estimated” drawings, and “actual” as opposed to drawings from “reorganized” instruments.

10.213 DMFAS allows the user to perform exchange rate and interest rate sensitivity. This type of analysis is used to make projections about how changes in interest rates and/or exchange rates impact a country's debt service and, consequently, its debt sustainability. It can be used to build scenarios or "what if" simulations for evaluating different refinancing strategies.

c. Audits and evaluations

10.214 The system provides comprehensive information to support audits and other types of evaluations. It provides details on each instrument and transaction and audit trails are incorporated within the system. Supporting documentation and backups are always recommended as part of the DMFAS implementation process.

d. Linkages with other systems

10.215 The DMFAS can easily be linked with any other system. A standard interface is available for link-

age with Integrated Financial Management Information systems (IFMIS), in particular for streamlining operations with budgeting and accounting, and has been implemented in a number of countries.

10.216 Interfaces exist between the DMFAS system and all standard analytical tools including the debt sustainability model (DSM Plus), Medium-Term Debt Management Strategies (MTDS), DSF, and risk models. The DMFAS Program is also planning to build linkages with Aid Management systems in the near future.

e. Technical characteristics

10.217 DMFAS 6 works on any standard Internet Browser. It uses Oracle's Relational Database Management System (RDBMS) and was developed using Java and ORACLE Development Tools.



Relationship between Public Sector Debt Statistics and External Debt Statistics

This appendix briefly discusses the relationships between public sector debt statistics and external debt statistics.

A. Introduction

A1.1 Chapter 3 of this *Guide* explains the linkages between the *GFSM* balance sheet and public sector debt statistics. This appendix explains the relationships between public sector debt statistics and external debt statistics (as described in the *External Debt Guide*). The following sections summarize these relationships in terms of definitions, institutional coverage, and classifications.

B. Definitions

A1.2 This *Guide* is consistent with other macro-economic statistical systems in its definition of gross and net debt.¹ Chapter 2 of this *Guide* defines gross debt as consisting of all liabilities that are debt instruments. A debt instrument is an instrument that requires payment(s) of interest and/or principal by the debtor to the creditor at a date, or dates, in the future. Equity and investment fund shares and financial derivatives and employee stock options are not debt or debt-related instruments (see Chapter 2, paragraphs 2.4 and 2.6).

¹This *Guide* is consistent with the 2008 *SNA* and *BPM6*, which include special drawing rights (SDRs) and provisions for calls under standardized guarantee schemes in the standard definitions of debt. The 2003 edition of the *External Debt Guide* follows the 1993 *SNA* and the *Balance of Payments Manual, Fifth Edition (BPM5)*, and does not include these instruments in the definition of debt.

C. Institutional Coverage

A1.3 Figure A1.1 illustrates the relationship between public sector debt and external sector debt.² Total public sector debt covers the domestic and external debt of the general government, public nonfinancial corporations, and public financial corporations. Total external debt covers the external debt of the public sector and the private sector of an economy. Thus, the external debt of the public sector is a subset of total external debt.

A1.4 Public sector units may guarantee the debt of private sector institutional units and other public sector units.³ Publicly guaranteed private sector debt, which is a memorandum item to public sector debt statistics, can be classified according to the residence of the creditor: domestic or external. Thus, the publicly guaranteed external debt of the private sector is also a component of total external debt.

D. Valuation

A1.5 As explained in Chapter 2, this *Guide* recommends to value debt instruments on the reference date at nominal value and, for traded debt securities, at market value as well. The presentation tables in Chapter 5 of this *Guide* allow for presenting debt statistics at both nominal and market value. Similarly, the *External Debt Guide* recommends that debt instruments are valued at nominal values and, for debt securities, at market value as well.

²As explained in Chapter 2, debt is classified by residence of the creditor. Debt owed to nonresident creditors is referred to as external debt.

³However, the latter would only be included in the public sector debt statistics as guaranteed debt—a memorandum item—when the gross debt statistics do not cover all the public sector institutional units. Otherwise, publicly guaranteed public sector debt is, by definition, zero. See the discussion of publicly guaranteed debt (Tables 5.8a and 5.8b) in Chapter 5 for more details.

E. Classifications

A1.6 As outlined in Chapter 5 of this *Guide*, public sector debt statistics can be classified according to the type of debt instrument, original and remaining maturity, currency of denomination, type of interest rate, residence of the creditor, and type of institutional sector of the creditor. The main presentation in the 2003 edition of the *External Debt Guide* classifies debt statistics according to the type of institutional sector of the debtor, original maturity, and type of debt instrument. Supplementary tables present debt statistics according to, among others, the type of interest rate, currency of denomination, and remaining maturity.

A1.7 This *Guide* follows the 2008 SNA and BPM6 classification of debt instruments and the institutional sectors of creditors, while the 2003 edition of the *External Debt Guide* follows the 1993 SNA and BPM5. Differences in these classification categories used by this *Guide* and the 2003 edition of the *External Debt Guide* are illustrated in Table A1.1.

Table A1.1. Differences between *Public Sector Debt Statistics Guide* and *External Debt Guide* (2003) Classifications by Type of Debt Instrument and Institutional Sector of the Nonresident Creditor

<i>Public Sector Debt Statistics Guide</i>	<i>External Debt Guide</i> (2003)
Classification by type of debt instrument	
Special drawing rights (SDRs)	–
Currency and deposits	Currency and deposits
Debt securities	Money market instruments ¹ Bonds and notes ¹
Loans	Loans
Insurance, pension, and standardized guarantees schemes	–
Other accounts payable	Trade credits Other debt liabilities ² Arrears Other ²
Classification by type of institutional sector of the nonresident creditor	
General government Central banks International organizations Financial corporations not elsewhere classified Other nonresidents	Multilateral organizations General government Monetary authorities Banks Other sectors

Note: SDRs and provision for calls under standardized guarantee schemes are not recognized as debt liabilities in the 2003 edition of the *External Debt Guide*.

¹In the *Public Sector Debt Statistics Guide*, these items are renamed as debt securities: short-term at original maturity and debt securities: long-term at original maturity, respectively.

²Includes debt liabilities for insurance technical reserves.

Figure A1.1. Relationship between *Public Sector Debt Statistics* and *External Debt Statistics*

Sector	Public sector			Private sector		Total
	General government	Public nonfinancial corporations	Public financial corporations	Nonfinancial	Financial	
Residence						
Domestic						
External				Includes publicly guaranteed private sector debt	Includes publicly guaranteed private sector debt	Total external debt
Total	Total general government debt	Total public nonfinancial corporations debt	Total public financial corporations debt			

The shaded areas show where public sector debt corresponds with external debt.

Reconciliation of Public Sector Debt Flows and Stocks

This appendix briefly discusses the relationships between public sector debt flows and stocks. For complete discussions on flows and stocks, see Chapter 3, GFSM; Chapter 3, 2008 SNA; and Chapter 3, BPM6.

A. Introduction to Flows and Stocks

A2.1 All of the data recorded in the macroeconomic statistical systems are either **flows** or **stocks** (stocks are also referred to as “positions” or “stock positions”). Flows measure changes in the level of economic value over a period of time, while stock positions measure the level of economic value at a specific point in time. Economic value refers to a unit’s assets, liabilities, and net worth.

A2.2 The flows and stock positions recorded in the macroeconomic statistical systems are integrated, which means that changes in stock positions can be fully explained by the flows. In other words, the following relationship is valid for each stock position:

$$S_0 + F_1 = S_1 \quad (1)$$

where S_0 and S_1 represent the values of a specific stock at the beginning and end of an accounting period, respectively, and F_1 represents the net value of flows during the specified period that affected that particular stock position. More generally, the value of any stock held by a unit at a given time is the cumulative value of all flows affecting that stock that have occurred since the unit first acquired the stock. Such an integrated system, which follows basic accounting principles, helps understand the causes for changes in stock positions.

B. Types of Flows

A2.3 Flows reflect the creation, transformation, exchange, transfer, or extinction of economic value.

They involve changes in the volume, composition, or value of a unit’s assets, liabilities, and net worth. A flow can be a single event, such as a cash payment for the repayment of a loan principal, or the cumulative value of a set of events occurring during an accounting period, such as the continuous accrual of interest expense on a government bond. Flows are divided into **transactions** and **other economic flows**. From the identity (1) above, follows that:

$$S_0 + T_1 + OEF_1 = S_1$$

where **T** represents the net value of transactions, and **OEF** represents other economic flows during the period. Transactions and other economic flows are discussed next.

I. Transactions

A2.4 *A transaction is an interaction between two units by mutual agreement or through the operation of the law, or an action within a unit that is analytically useful to treat as a transaction (often because the unit is operating in two different capacities).* “Mutual agreement” means that there was prior knowledge and consent by the units, but it does not mean that the units involved entered into the transaction voluntarily.¹ The assumption of a unit’s debt by a guarantor when the guarantee is called is a transaction because there is mutual agreement between the two units that the guarantor will assume the debt when certain conditions are met.² Debt forgiveness is also considered a transaction. However, a debt write-

¹For example, some transactions, such as the payment of taxes, are imposed by force of law. Although individual units are not free to fix the amounts of taxes they pay, there is collective recognition and acceptance by the community of the obligation to pay taxes. Payments of taxes are, therefore, considered transactions even though they are compulsory.

²Some mutual agreements involve three parties. For example, debt guarantees involve the guarantor, the debtor, and the creditor.

off or debt cancellation is not a transaction because it is a unilateral action by the creditor—such flows are considered “other economic flows” (see below).³ Foreclosures and repossessions of assets by creditors are transactions because the contractual agreement between debtor and creditor provides this avenue of recourse.

A2.5 Every transaction involves an **exchange** or a **transfer**. *An exchange involves the provision of something of economic value in return for a corresponding item of economic value.* Purchases of goods and services, acquisition of assets, compensation of employees, dividends, etc. are exchanges.⁴ *A transfer involves a provision (or receipt) of an economic value by one party without receiving (or providing) a corresponding item of economic value.* A transfer entry is recorded as a corresponding entry to the unrequited flow. Taxes, debt forgiveness, grants, and subsidies are examples of transfers.⁵

A2.6 Every transaction is either a monetary or non-monetary transaction. *A monetary transaction is one in which one institutional unit makes a payment (receives a payment) or incurs a liability (acquires an asset) stated in units of currency.* *A nonmonetary transaction is one not initially stated in units of currency by the transacting parties* (for example, the provision of aid in the form of goods). Because flows have to be expressed in monetary terms, the monetary values of nonmonetary transactions need to be indirectly measured or otherwise estimated.

2. Other economic flows

A2.7 *An “other economic flow” is a change in the volume or value of an asset or liability that does not result from a transaction.* Volume changes are described as **other changes in the volume of assets** or, more simply, other volume changes, and value changes are described as **holding gains and losses** or **revaluations**.⁶

a. Other changes in the volume of assets

A2.8 Other changes in the volume of assets cover a wide variety of events, for example:

- A creditor may determine that a financial claim can no longer be collected because of the debtor’s bankruptcy. The creditor removes the claim from its balance sheet by recording an other volume change.
- Currency or bearer securities may be destroyed as a result of a natural catastrophe. These financial claims are removed from the owner’s balance sheet by recording an other volume change.
- A reclassification of an entire public sector institutional unit or of a group of assets and liabilities may occur. An other volume change is recorded to reflect this change in the composition of a public sector unit’s assets.⁷

b. Holding gains and losses

A2.9 *A holding gain or loss (or revaluation) is a change in the monetary value of an asset or liability resulting from changes in the level and structure of prices (for example, from changes in interest rates) and/or the exchange rate, assuming that the asset or liability has not changed qualitatively or quantitatively.* Holding gains and losses⁸:

- Can apply to all assets and liabilities;
- Result from price changes and can accrue on all economic assets held for any length of time during an accounting period. It does not matter whether an asset is held the entire period, acquired during the period and held until the end of the period, held at the beginning of the period and disposed of during the period, or acquired and disposed of within the same period. In each case, a holding gain is possible and must be recorded;
- May be realized or unrealized; and
- Do not include a change in the value of an asset resulting from a change in the quantity or quality of the asset. In particular, bills and bonds issued at a discount may increase in value progressively prior to redemption because of the accrual of

³In contrast, a unilateral write-off by a debtor, or debt repudiation, is not recognized in the macroeconomic statistical systems.

⁴An exchange is sometimes called a transaction with “something for something” or a transaction with a quid pro quo.

⁵A transaction involving a transfer is also called a transaction with “something for nothing” or a transaction without a quid pro quo.

⁶In all cases, a reference to a change in the volume or value of an asset refers also to changes in liabilities as appropriate.

⁷A reclassification rearranges assets and liabilities without changing the net worth of the unit or sector involved.

⁸A holding gain or loss always affects net worth. The words “gain” and “loss” are used in reference to the direction of the change in net worth. A flow that increases the value of an asset or decreases the value of a liability will increase net worth and is referred to as a holding gain. A flow that decreases the value of an asset or increases the value of a liability will decrease net worth and is a holding loss.

interest. The increase in the market value of a bill or bond due to the accrual of interest is recorded as a transaction in the asset and is not a holding gain.

A2.10 The precise calculation of holding gains requires records to be maintained of all individual transactions and other changes in the volume of assets plus the price of each asset at the time of the opening and closing balance sheets, each transaction, and each other change in the volume of an asset. In practice, it is unlikely that all of the requisite data will be available, and other, indirect estimation techniques using less information must be employed.

A2.11 A commonly used indirect method is based on the identity that the closing balance sheet value for a category of assets must equal the opening balance sheet value plus the net value of transactions, other changes in the volume of assets, and holding gains that affect that category of assets. If the information available on balance sheets, transactions, and other changes in the volume of assets is complete and accurate, then the net value of holding gains can be calculated as the residual value necessary to complete the identity. This formulation should not be interpreted, however, as implying that the value of holding gains is a residual item. In concept, holding gains and losses occur continuously because prices change continuously. However, as a practical matter, holding gains and losses for the entire accounting period are normally estimated at the end of the period.

C. Stock Positions

A2.12 *Stock positions, or stocks, refer to the level of assets, liabilities, and net worth at a specific point in time.* Stock positions are recorded in a balance sheet, which is a statement of the values of assets owned and of the liabilities owed by an institutional unit or group of units, drawn up in respect of a particular point in time.

A2.13 In this *Guide*, stock positions refer to the levels of debt instruments, as well as the levels of financial assets corresponding to the debt instruments. As explained in Chapter 3, paragraph 3.4, assets recorded in the macroeconomic statistical systems are economic assets. These assets may be financial or nonfinancial in nature. Generally, stock positions are shown at the beginning and end of an accounting period. Stock positions between two periods are connected with flows during that period, as explained in paragraphs A2.1–A2.3 above.

D. Reconciliation between Public Sector Debt Flows and Stocks

I. Conceptual framework

A2.14 The reconciliation of gross and net public sector debt, at market values, at two different reference dates is illustrated in Table A2.1. In this table, the first and last columns represent, respectively, the gross debt, financial assets held in the form of debt instruments, and the net debt stock positions at the beginning of the period (i.e., the opening balance sheet values) and at the end of the period (i.e., the closing balance sheet values).

A2.15 The three columns between the stock positions represent the flows. The first flow column shows the transactions during the reference period. The statistics on transactions are identical to the financing transactions recorded in the GFS system and in the *2008 SNA*. However, the GFS system and the *2008 SNA* also record as financing transactions two instruments that are not debt or debt-related instruments: equity and investment fund shares, and financial derivatives and employee stock options. The remaining two flow columns represent holding gains and losses and other changes in the volume of assets and liabilities, respectively.

A2.16 As explained in paragraph A2.11 above, in practice, the net value of holding gains and losses can be calculated as the residual value to complete the basic identity. This is, however, only true if information available on the opening and closing stock positions, transactions, and other volume changes are complete, accurate, and at market values.⁹ A presentation of all debt statistics at nominal values will exclude any changes in value arising from changes in market prices. As a result, the only values in the holding gains and losses column for instruments at nominal value will be those from exchange rate changes.

2. Some practical guidelines

A2.17 In practice, source data may be incomplete and/or imperfect. A fully integrated set of stock positions and flows may not be available for debt statistics. Data for stock positions may come from different

⁹“At market values” means that debt securities are valued at market prices; insurance, pension, and standardized guarantee schemes are valued according to principles that are equivalent to market valuation; and all other debt instruments are valued at nominal prices, which are considered to be the best generally available proxies of their market prices.

Table A2.1. Reconciliation between Public Sector Debt Flows and Stocks

	Stocks: Opening balance sheet values	Transactions	Other economic flows		Stocks: Closing balance sheet values
			Holding gains and losses (revaluations)	Other volume changes	
A. Debt instruments SDRs Currency and deposits Debt securities Loans Insurance, pension, and standardized guarantee schemes Other accounts payable					
B. Financial assets in the form of debt instruments Monetary gold and SDRs Currency and deposits Debt securities Loans Insurance, pension, and standardized guarantee schemes Other accounts receivable					
C. Net debt (A minus B)					

sources than data for flows. Such deficiencies in source data may lead to difficulties in the reconciliation of flows and stock positions.¹⁰ To address these issues, compilers should:

- Ensure that the same institutional coverage, classifications, and valuation principles are applied to the stock positions and the flows, respectively.
- Take into account the currency composition when calculating revaluations for debt instruments denominated in foreign currencies. Debt (and financial assets in the form of debt instruments) denominated in other currencies are subject to revaluations when converted into domestic currency. It may be useful to make calculations separately for different major currencies.
- Carefully review the stock positions and flows, especially when they are from different sources. The holding gains and losses values calculated as residual values (see paragraph A2.11) should be verified and interpreted to ensure they reflect the true nature of the price changes being measured.

A2.18 Reconciliations of debt stock positions and flows are more complicated for debt valued at face

value, than for debt valued at market value or nominal value. Nonetheless, when statistics on government operations, including financing,¹¹ are recorded on a cash basis, debt statistics are valued at current market prices, and no integrated system of stock positions and flows exists, the net changes in domestic and external debt (debt held by residents and nonresidents, respectively) are equal to the sum of¹²:

- Net incurrence of debt liabilities minus net acquisition of financial assets corresponding to debt instruments;
- Net discounts and premiums on new issues and redemptions of debt (discounts/premiums on new issues minus discounts/premiums on redemptions);
- Accrued interest to debt, that is, accrued interest added to debt minus payments of accrued interest previously added to debt;
- Noncash flows in debt instruments (for example, debt write-offs, government assumption of debt and recognition of existing debt from off-balance sheet to on-balance sheet);
- Changes in the market price of debt securities;

¹⁰However, different sources for stocks and flows may be used to cross-check the data. For example, if the stock positions and flows data do not reconcile, the different sources may assist in establishing where data errors exist.

¹¹Net acquisition of financial assets and net incurrence of liabilities.

¹²This reconciliation draws from “the reconciliation of net borrowing” in *A Manual on Government Finance Statistics, 1986*, page 227.

- Revaluations resulting from changes in the exchange rate of national currency vis-à-vis foreign currencies; and
- Coverage and classification changes and discrepancies.

Glossary

Accrual basis of recording	Flows and stock positions are recorded when economic value is created, transformed, exchanged, transferred, or extinguished.
Ancillary activity	An ancillary activity is a supporting activity undertaken within an enterprise in order to create the conditions within which the principal or secondary activities can be carried out. In addition, ancillary activities have certain common characteristics related to their output.
Arrears	Arrears are defined as amounts that are both unpaid and past the due date for payment.
Asset-backed securities	Asset-backed securities and collateralized debt obligations are arrangements under which payments of interest and principal are backed by payments on specified assets or income streams.
Average interest rate	The average interest rate is the weighted-average level of interest rates on the outstanding gross public sector debt or any specific debt instrument, at nominal and market value, as at the reference date. The weights to be used are determined by the value in the unit of account of each borrowing as a percentage of the total.
Average time to maturity	The average time to maturity measures the weighted average time to maturity of all the principal payments in the portfolio.
Average time to refixing	The average time to refixing is a measure of weighted average time until all the principal payments in the debt portfolio become subject to a new interest rate.
Balance sheet	A balance sheet is a statement of the values of the stocks of assets owned and of the liabilities owed by an institutional unit or group of units, drawn up in respect of a particular point in time.
Banker's acceptance	A banker's acceptance is created when a financial corporation endorses, in return for a fee, a draft or bill of exchange and the unconditional promise to pay a specific amount at a specified date.
Bills	Bills are defined as securities (usually short-term) that give holders the unconditional rights to receive stated fixed sums on a specified date.
Bonds and debentures	Bonds and debentures are securities that give the holders the unconditional right to fixed payments or contractually determined variable payments on a specified date or dates.
Budgetary central government	The budgetary central government is a single unit of the central government that encompasses the fundamental activities of the national executive, legislative, and judiciary powers.

Central bank	The central bank is the national financial institution that exercises control over key aspects of the financial system.
Central government subsector	The central government subsector consists of the institutional unit(s) of the central government plus those nonmarket nonprofit institutions that are controlled by the central government. The political authority of central government extends over the entire territory of the country. The central government subsector includes social security funds operated by central government, if social security funds are not classified as a separate subsector of general government.
Collateralized debt obligations	<i>See asset-backed securities.</i>
Consolidation	Consolidation is a method of presenting statistics for a set of units (or entities) as if they constituted a single unit.
Contingent liabilities	Contingent liabilities are obligations that do not arise unless a particular, discrete event(s) occurs in the future. A key difference between contingent liabilities and current financial liabilities (and public sector debt) is that one or more conditions must be fulfilled before a financial transaction is recorded.
Control of a corporation	Control is defined as the ability to determine general corporate policy of the corporation. “General corporate policy” refers to, in a broad sense, the key financial and operating policies relating to the corporation’s strategic objectives as a market producer.
Corporations	Corporations are all entities that are (i) capable of generating a profit or other financial gain for their owners, (ii) recognized by law as legal entities separate from their owners who enjoy limited liability, and (iii) set up for purposes of engaging in market production (i.e., producing goods and services at economically significant prices). <i>See also economically significant prices.</i>
Currency	Currency consists of notes and coins that are of fixed nominal values and are issued or authorized by the central bank or government.
Currency of denomination	The currency of denomination is determined by the currency in which the value of flows and stock positions is fixed as specified in the contract between the parties.
Debt	<i>See gross debt, total.</i>
Debt assumption	Debt assumption is a trilateral agreement between a creditor, a former debtor, and a new debtor (typically a government unit) under which the new debtor assumes the former debtor’s outstanding liability to the creditor, and is liable for repayment of debt.
Debt cancellation	See debt forgiveness.
Debt conversion	Debt conversion (swap) is an exchange of debt—typically at a discount—for a nondebt claim (such as equity), or for counterpart funds that can be used to finance a particular project or policy.
Debt defeasance	With defeasance, a debtor unit removes liabilities from its balance sheet by pairing them with financial assets, the income and value of which are sufficient to ensure that all debt-service payments are met.
Debt forgiveness	Debt forgiveness (or debt cancellation) is defined as the voluntary cancellation of all or part of a debt obligation within a contractual arrangement between a creditor and a debtor.

Debt instrument	A debt instrument is defined as a financial claim that requires payment(s) of interest and/or principal by the debtor to the creditor at a date, or dates, in the future. <i>See gross debt, total.</i>
Debt liabilities	<i>See gross debt, total.</i>
Debt liability in arrears	A debt liability is in arrears when it has not been liquidated by its due-for-payment date, that is, when principal or interest payments are not made when due.
Debt net of highly liquid assets	Debt net of highly liquid assets is, in most cases, equal to gross debt minus financial assets in the form of currency and deposits. However, in some cases, debt securities held for debt management purposes could be included as highly liquid financial assets.
Debt payments on behalf of others	Rather than assuming a debt, a public sector unit may decide to repay that debt or make a specific payment on behalf of another institutional unit (original debtor), without a guarantee being called or the debt being taken over.
Debt prepayment	Debt prepayment consists of a repurchase, or early payment, of debt at conditions that are agreed between the debtor and the creditor.
Debt refinancing	Debt refinancing involves the replacement of an existing debt instrument or instruments, including any arrears, with a new debt instrument or instruments.
Debt reorganization	Debt reorganization (also referred to as debt restructuring) is defined as an arrangement involving both the creditor and the debtor (and sometimes third parties) that alter the terms established for servicing an existing debt.
Debt rescheduling	Debt rescheduling is a bilateral arrangement between the debtor and the creditor that constitutes a formal postponement of debt-service payments and the application of new and generally extended maturities.
Debt securities	Debt securities are negotiable financial instruments serving as evidence of a debt.
Debt-service moratorium	A debt-service moratorium involves an individual creditor permitting the debtor a formal suspension of debt-service payments falling due within a given period.
Debt write-offs	Debt write-offs or write downs refer to unilateral reductions by a creditor, of the amount owed to it.
Deep-discount bonds	Deep-discount bonds are long-term securities that require periodic coupon payments during the life of the instrument, but the amount is substantially below the market rate of interest at issuance.
Deposits	Deposits are all claims, represented by evidence of deposit, on the deposit-taking corporations (including the central bank) and, in some cases, general government and other institutional units.
Domestic currency	Domestic currency is that which is legal tender in the economy and issued by the monetary authority for that economy; that is, either that of an individual economy or, in a currency union, that of the common currency area to which the economy belongs. <i>See also foreign currency.</i>
Domestic debt	Debt liabilities owed by residents to residents of same economy are domestic debt.
Economic assets	Economic assets are entities (i) over which economic ownership rights are enforced by institutional units, individually or collectively, and (ii) from which

	economic benefits may be derived by their owners by holding them or using them over a period of time.
Economic owner	The economic owner of entities such as goods and services, natural resources, financial assets, and liabilities is the institutional unit entitled to claim the benefits associated with the use of the entity in question in the course of an economic activity by virtue of accepting the associated risks.
Economically significant prices	Economically significant prices are prices that have a significant influence on the amounts that producers are willing to supply and on the amounts that purchasers wish to buy.
Economy	An economy consists of a set of resident institutional units.
Exchange	An exchange involves the provision of something of economic value in return for a corresponding item of economic value. <i>See also transfer.</i>
Explicit contingent liabilities	Explicit contingent liabilities are defined as legal or contractual financial arrangements that give rise to conditional requirements to make payments of economic value. The requirements become effective if one or more stipulated conditions arise. <i>Also see implicit contingent liabilities.</i>
External debt	Debt liabilities owed by residents to nonresidents are external debt.
Extrabudgetary	General government entities with individual budgets not fully covered by the general budget are considered extrabudgetary.
Face value	The face value of a debt instrument is the undiscounted amount of principal to be repaid at maturity. <i>See also nominal value.</i>
Fair value	The fair value of a debt instrument is its “market-equivalent” value and is defined as the amount for which a financial asset could be exchanged, or a liability settled, between knowledgeable, willing parties in an arm’s length transaction.
Financial assets	Financial assets consist of financial claims plus gold bullion held by monetary authorities as a reserve asset. A financial claim is an asset that typically entitles the owner of the asset (the creditor) to receive funds or other resources from another unit, under the terms of a liability.
Financial auxiliaries	Financial auxiliaries are institutional units principally engaged in serving financial markets, but do not take ownership of the financial assets and liabilities they handle.
Financial claims	<i>See financial assets.</i>
Financial corporations	Financial corporations comprise all resident corporations whose principal activity is the provision of financial services.
Financial lease	A financial lease is a contract under which the lessor as legal owner of an asset conveys substantially all risks and rewards of ownership of the asset to the lessee.
Fiscal risks	At the most general level, fiscal risks may be defined as any potential differences between actual and expected fiscal outcomes.
Foreign currency	All currencies other than domestic currency are foreign currencies. <i>See domestic currency.</i>
Foreign debt	<i>See external debt.</i>

General government sector	The general government sector comprises all government units and all non-market nonprofit institutions that are controlled by government units.
Gold swap	A gold swap involves an exchange of gold for foreign exchange deposits with an agreement that the transaction be reversed at an agreed future date at an agreed gold price.
Government units	Government units are institutional units with legislative, judicial, or executive authority over other institutional units within a given area; they assume responsibility for the provision of goods and services to the community or to individual households on a nonmarket basis; they make transfer payments to redistribute income and wealth; and they finance their activities mainly by means of taxes and other income from units in other sectors of the economy.
Gross debt at market value	“Gross debt at market value” means that debt securities are valued at market prices; insurance, pension, and standardized guarantee schemes are valued according to principles that are equivalent to market valuation; and all other debt instruments are valued at nominal prices, which are considered to be the best generally available proxies of their market prices.
Gross debt, total	Total gross debt—often referred to as “total debt” or “total debt liabilities”—consists of all liabilities that are debt instruments. A debt instrument is defined as a financial claim that requires payment(s) of interest and/or principal by the debtor to the creditor at a date, or dates, in the future.
Holding gains and losses	A holding gain or loss (or revaluation) is a change in the monetary value of an asset or liability resulting from changes in the level and structure of prices (for example, from changes in interest rates) and/or the exchange rate, assuming that the asset or liability has not changed qualitatively or quantitatively.
Implicit contingent liabilities	Implicit contingent liabilities do not arise from a legal or contractual source but are recognized after a condition or event is realized. <i>Also see explicit contingent liabilities.</i>
Index-linked securities	Index-linked securities are instruments for which either the coupon payments (interest) or the principal or both are linked to another item, such as a price index or the price of a commodity.
Institutional unit	An institutional unit is an economic entity that is capable, in its own right, of owning assets, incurring liabilities, and engaging in economic activities and in transactions with other entities.
Interest	Interest is a form of investment income that is receivable by the owners of certain kinds of financial assets (SDRs, deposits, debt securities, loans, and other accounts receivable) for putting these financial and other resources at the disposal of another institutional unit.
International organizations	International organizations have the following characteristics: (i) The members of an international organization are either national states or other international organizations whose members are national states; (ii) they are entities established by formal political agreements between their members that have the status of international treaties; their existence is recognized by law in their member countries; and (iii) they are created for various purposes, such as international financial organizations (for example, the IMF and World Bank) or to provide nonmarket services of a collective nature for the benefit of their member states (for example, peacekeeping, education, and policy issues).

Intersectoral consolidation	Intersectoral consolidation, which is consolidation between subsectors of the public sector to produce consolidated statistics for a particular grouping of public sector units (for example, between central, state, and local governments, or between general government and public nonfinancial corporations).
Intrasectoral consolidation	Intrasectoral consolidation, which is consolidation within a particular subsector to produce consolidated statistics for that particular subsector (for example, within the central government subsector or within public nonfinancial corporations subsector).
Joint venture	A joint venture involves the establishment of a corporation, partnership, or other institutional unit in which, legally, each party has joint control over the activities of the joint venture unit.
Legal owner	The legal owner of entities such as goods and services, natural resources, financial assets, and liabilities is the institutional unit entitled in law and sustainable under the law to claim the benefits associated with the entities.
Liability	A liability is established when one unit (the debtor) is obliged, under specific circumstances, to provide funds or other resources to another unit (the creditor).
Life insurance and annuities entitlements	Life insurance and annuities entitlements are financial claims policyholders have against an enterprise offering life insurance or providing annuities.
Loan	A loan is a financial instrument that is created when a creditor lends funds directly to a debtor and receives a nonnegotiable document as evidence of the asset.
Local government subsector	The local government subsector consists of local governments that are separate institutional units plus those nonmarket nonprofit institutions that are controlled by local governments. In principle, local government units are institutional units whose fiscal, legislative, and executive authority extends over the smallest geographical areas distinguished for administrative and political purposes. The local government subsector includes social security funds operated by local governments, if social security funds are not classified as a separate subsector of general government.
Market prices	Market prices for transactions are defined as amounts of money that willing buyers pay to acquire something from willing sellers; the exchanges are made between independent parties and on the basis of commercial considerations only, sometimes called “at arm’s length.”
Market value of financial assets and liabilities	Financial assets and liabilities (including debt instruments) should be valued in macroeconomic statistics at market value, that is, as if they were acquired in market transactions on the balance sheet reporting date (reference date). <i>See also market prices.</i>
Maturity	The maturity of a debt instrument refers to the time until the debt is extinguished according to the contract between the debtor and the creditor. In the statistical guidelines this time period is either from the date of incurrence or reference (original/remaining maturity, respectively) of the debt liability to the date at which the liability will be extinguished.
Monetary transaction	A monetary transaction is one in which one institutional unit makes a payment (receives a payment) or incurs a liability (acquires an asset) stated in units of currency. <i>See also nonmonetary transaction.</i>
Net debt	Net debt is calculated as gross debt minus financial assets corresponding to debt instruments.

Net financial worth	Net financial worth of an institutional unit (or grouping of units) is the total value of its financial assets minus the total value of its outstanding liabilities.
Net worth	Net worth of an institutional unit (or grouping of units) is the total value of its assets minus the total value of its outstanding liabilities
Nominal value	The nominal value of a debt instrument is a measure of value from the viewpoint of the debtor: at any moment in time it is the amount that the debtor owes to the creditor. <i>See also face value.</i>
Nonfinancial assets	Nonfinancial assets are economic assets other than financial assets.
Nonfinancial corporations	Nonfinancial corporations are corporations whose principal activity is the production of market goods or nonfinancial services.
Nonlife insurance technical reserves	Nonlife insurance technical reserves consist of (i) prepayments of net nonlife insurance premiums and (ii) reserves to meet outstanding nonlife insurance claims.
Nonmarket nonprofit (NPIs) controlled by government	Nonmarket NPIs that are controlled by government units are legal or social entities created for the purpose of producing goods and services on a nonmarket basis, but whose status does not permit them to be a source of income, profit, or other financial gain for government. <i>See also government units.</i>
Nonmonetary transaction	A nonmonetary transaction is one not initially stated in units of currency by the transacting parties (for example, the provision of aid in the form of goods). <i>See also monetary transaction.</i>
Nonparticipating preferred stocks/shares	Nonparticipating preferred stocks or shares are those that pay a fixed income but do not provide for participation in the distribution of the residual value of an incorporated enterprise on dissolution.
Nonperforming loans	Nonperforming loans are those for which (i) payments of principal and interest are past due by three months (90 days) or more; or (ii) interest payments equal to three months (90 days) interest or more have been capitalized (reinvested to the principal amount) or payment has been delayed by agreement; or (iii) evidence exists to reclassify a loan as non-performing even in the absence of a 90-day past due payment, such as when the debtor files for bankruptcy.
Nonprofit institutions (NPIs)	Nonprofit institutions (NPIs) are legal or social entities, created for the purpose of producing goods and services, whose status does not permit them to be source of income, profit, or other financial gain for the units that establish, control, or finance them.
Notional amount	The notional amount—sometimes described as the nominal amount—is the amount underlying a financial derivatives contract that is necessary for calculating payments or receipts on the contract
Off-market swap	An off-market swap is a swap which has a nonzero value at inception as a result of having reference rates priced different from current market values, i.e., “off-the-market.”
On-balance sheet securitization	On-balance sheet securitization involves debt securities backed by a future revenue stream generated by the assets. The assets remain on the balance sheet of the debt securities issuer (the original asset owner), typically as a separate portfolio. There is no securitization unit involved.

One-off guarantees	One-off guarantees comprise those types of guarantees where the debt instrument is so particular that it is not possible to calculate the degree of risk associated with the debt with any degree of accuracy. In contrast to standardized guarantees, one-off guarantees are individual, and guarantors are not able to make a reliable estimate of the risk of calls.
On-lending of borrowed funds	On-lending of borrowed funds refers to a resident institutional unit, A (usually central government), borrowing from another institutional unit(s), B (usually a nonresident unit), and then on-lending the proceeds from this borrowing to a third institutional unit(s), C (usually state or local governments, or a public corporation[s]), where it is understood that unit A obtains an effective financial claim on unit C.
Other accounts payable	<i>See other accounts payable/receivable.</i>
Other accounts payable/ receivable	Other accounts payable/receivable consist of trade credits and advances and miscellaneous other items due to be paid or received.
Other accounts receivable	<i>See other accounts payable/receivable.</i>
Other economic flow	An “other economic flow” is a change in the volume or value of an asset or liability that does not result from a transaction. <i>See also holding gains and losses and other changes in the volume of assets.</i>
Other public financial corporations	Other public financial corporations comprise all resident financial corporations, except public deposit-taking corporations, controlled by general government units or other public corporations.
Pension entitlements	Pension entitlements are financial claims that existing and future pensioners hold against either their employer, or a fund designated by the employer, to pay pensions earned as part of a compensation agreement between the employer and employee.
Principal liability	The provision of economic value by the creditor, or the creation of debt liabilities through other means, establishes a principal liability for the debtor, which, until extinguished, may change in value over time.
Provident funds	Provident funds are compulsory saving schemes that maintain the integrity of the contributions for individual participants.
Provision for calls under standardized guarantees	The estimated default rate of a pool of similar standardized guarantees establishes a debt liability, which is referred to as “provision for calls under standardized guarantee schemes.”
Public corporations	Public corporations include all corporations controlled by government units or by other public corporations. Corporations subject to the control of a government (or public corporation) that is resident in a different economy from that government are not classified as public corporations. <i>See also control of a corporation.</i>
Public deposit-taking corporations	Public deposit-taking corporations are financial corporations controlled by general government units or other public corporations whose principal activity is financial intermediation and who have liabilities in the form of deposits or financial instruments that are close substitutes for deposits. <i>See also financial corporations.</i>
Public deposit-taking corporations except the central bank	Public deposit-taking corporations except the central bank consist of all resident depository corporations, except the central bank, that are controlled by general government units or other public corporations.

Public financial corporations	All resident financial corporations controlled by general government units or other public corporations are part of the public financial corporations subsector. <i>See also financial corporations.</i>
Public nonfinancial corporations	All resident nonfinancial corporations controlled by general government units or public corporations are part of the public nonfinancial corporations subsector. <i>See also nonfinancial corporations.</i>
Public sector	The public sector consists of all resident institutional units controlled directly, or indirectly, by resident government units, that is, all units of the general government sector, and resident public corporations.
Publicly guaranteed debt	Publicly guaranteed debt is defined as debt liabilities of public and private sector units, the servicing of which is contractually guaranteed by public sector units. These guarantees consist of loan and other payment guarantees, which are a specific type of one-off guarantees.
Public-private partnerships (PPPs)	Public-private partnerships (PPPs) are long-term contracts between two units, whereby one unit acquires or builds an asset or set of assets, operates it for a period, and then hands the asset over to a second unit.
Quasi-corporation	A quasi-corporation is (i) either an unincorporated enterprise owned by a resident institutional unit that has sufficient information to compile 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, or (ii) an unincorporated enterprise owned by a nonresident institutional unit that is deemed to be a resident institutional unit because it engages in a significant amount of production in the economic territory over a long or indefinite period of time.
Repo	<i>See securities repurchase agreement.</i>
Residence	The residence of each institutional unit is the economic territory with which it has the strongest connection (i.e., its center of predominant economic interest).
Restructuring agencies	Restructuring agencies are entities set up to sell corporations and other assets, and for the reorganization of companies.
Revaluations	<i>See holding gains and losses.</i>
Securities lending	Securities lending is an arrangement whereby a security holder transfers securities to another party (security taker), subject to the stipulation that the same or similar securities be returned on a specified date or on demand.
Securities repurchase agreement (repo)	A securities repurchase agreement (repo) is an arrangement involving the sale of securities for cash, at a specified price, with a commitment to repurchase the same or similar securities at a fixed price either on a specified future date (often one or a few days hence) or with an open maturity.
Securitization	Securitization occurs when a unit, named the originator, conveys the ownership rights over financial or nonfinancial assets, or the right to receive specific future flows, to another unit, named the securitization unit. In return, the securitization unit pays an amount to the originator from its own source of financing. The securitization unit obtains its own financing by issuing debt securities using the assets or rights to future flows transferred by the originator as collateral.
Sinking fund	A sinking fund is a separate account, which may be an institutional unit or not, that is made up of segregated contributions provided by the unit(s) that makes

	use of the fund (the “parent” unit) for the gradual redemption of the parent unit’s debt.
Social insurance benefit	A social insurance benefit is a social benefit payable because the beneficiary participates in a social insurance scheme and the social risk insured against has occurred. <i>See social insurance scheme.</i>
Social insurance contribution	A social insurance contribution is the amount payable to a social insurance scheme in order for a designated beneficiary to be entitled to receive the social benefits covered by the scheme. <i>See social insurance scheme.</i>
Social insurance scheme	A social insurance scheme is an insurance scheme where the following two conditions are satisfied: (a) the benefits received are conditional on participation in the scheme and constitute social benefits (as this term is used in the 2008 SNA); and (b) at least one of the three conditions following is met: (i) Participation in the scheme is obligatory either by law or under the terms and conditions of employment of an employee, or group of employees; (ii) The scheme is a collective one operated for the benefit of a designated group of workers, whether employed or non-employed, participation being restricted to members of that group; and (iii) An employer makes a contribution (actual or imputed) to the scheme on behalf of an employee, whether or not the employee also makes a contribution. <i>See also social insurance benefit and social insurance contribution.</i>
Social security funds	Social security funds are those units that are devoted to the operation of social security schemes.
Social security schemes	Social security schemes are social insurance schemes covering the community as a whole, or large sections of the community, and are imposed and controlled by government units. <i>See also social insurance scheme.</i>
Sovereign wealth funds	Created and owned by the general government, SWFs hold, manage, or administer assets to achieve financial objectives, and employ a set of investment strategies which include investing in foreign financial assets. The funds are commonly established out of balance of payments surpluses, official foreign currency operations, the proceeds from privatizations, fiscal surpluses, and/or receipts resulting from commodity exports.
Special drawing rights (SDRs)	Special drawing rights (SDRs) are international reserve assets created by the International Monetary Fund (IMF) and allocated to its members to supplement reserve assets.
Standardized guarantees	Standardized guarantees are those kinds of guarantees that are issued in large numbers, usually for fairly small amounts, along identical lines.
State government subsector	The state government subsector consists of state, provincial, or regional governments that are separate institutional units plus those nonmarket nonprofit institutions that are controlled by state, provincial, or regional governments. State governments are institutional units exercising some of the functions of government at a level below that of central government and above that of the governmental institutional units existing at a local level. The state government subsector includes social security funds operated by state governments, if social security funds are not classified as a separate subsector of general government.
Stock positions	Stock positions, or stocks, refer to the level of assets, liabilities, and net worth at a specific point in time.

Stripped securities	Stripped securities are securities that have been transformed from a principal amount with coupon payments into a series of zero-coupon bonds, with a range of maturities matching the coupon payment date(s) and the redemption date of the principal amount(s).
Swap contract	A swap contract involves the counterparties exchanging, in accordance with pre-arranged terms, cash flows based on the reference prices of the underlying items.
Synthetic securitization	Synthetic securitization involves transfer of the credit risk related to a pool of assets without transfer of the assets themselves, either through a securitization unit or through the direct issuing of debt securities by the original asset owner.
Traded debt securities	Traded debt securities are those debt securities traded (or tradable) in organized and other financial markets—such as bills, bonds, debentures, negotiable certificates of deposits, asset-backed securities, etc.
Transaction	A transaction is an interaction between two units by mutual agreement or through the operation of the law, or an action within a unit that is analytically useful to treat as a transaction (often because the unit is operating in two different capacities). “Mutual agreement” means that there was prior knowledge and consent by the units, but it does not mean that the units involved entered into the transaction voluntarily. Every transaction involves an exchange or a transfer.
Transfer	A transfer involves a provision (or receipt) of an economic value by one party without receiving (or providing) a corresponding item of economic value. <i>See also exchange.</i>
Transferable deposits	Transferable deposits comprise all deposits that are (i) exchangeable (without penalty or restriction) on demand at par, and (ii) directly usable for making third-party payments by check, draft, giro order, direct debit/credit, or other direct payment facility. Nontransferable deposits comprise all other financial claims, other than transferable deposits, represented by evidence of deposit.
True-sale securitization	True-sale securitization, involves debt securities issued by a securitization unit where the underlying assets have been transferred from the original asset owner’s (i.e., the originator’s) balance sheet to that of the securitization unit.
Zero-coupon bonds	Zero-coupon bonds are long-term securities that do not involve periodic payments during the life of the bond. A single payment, that includes accrued interest, is made at maturity.

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