

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 liabil-*

*ities 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
	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

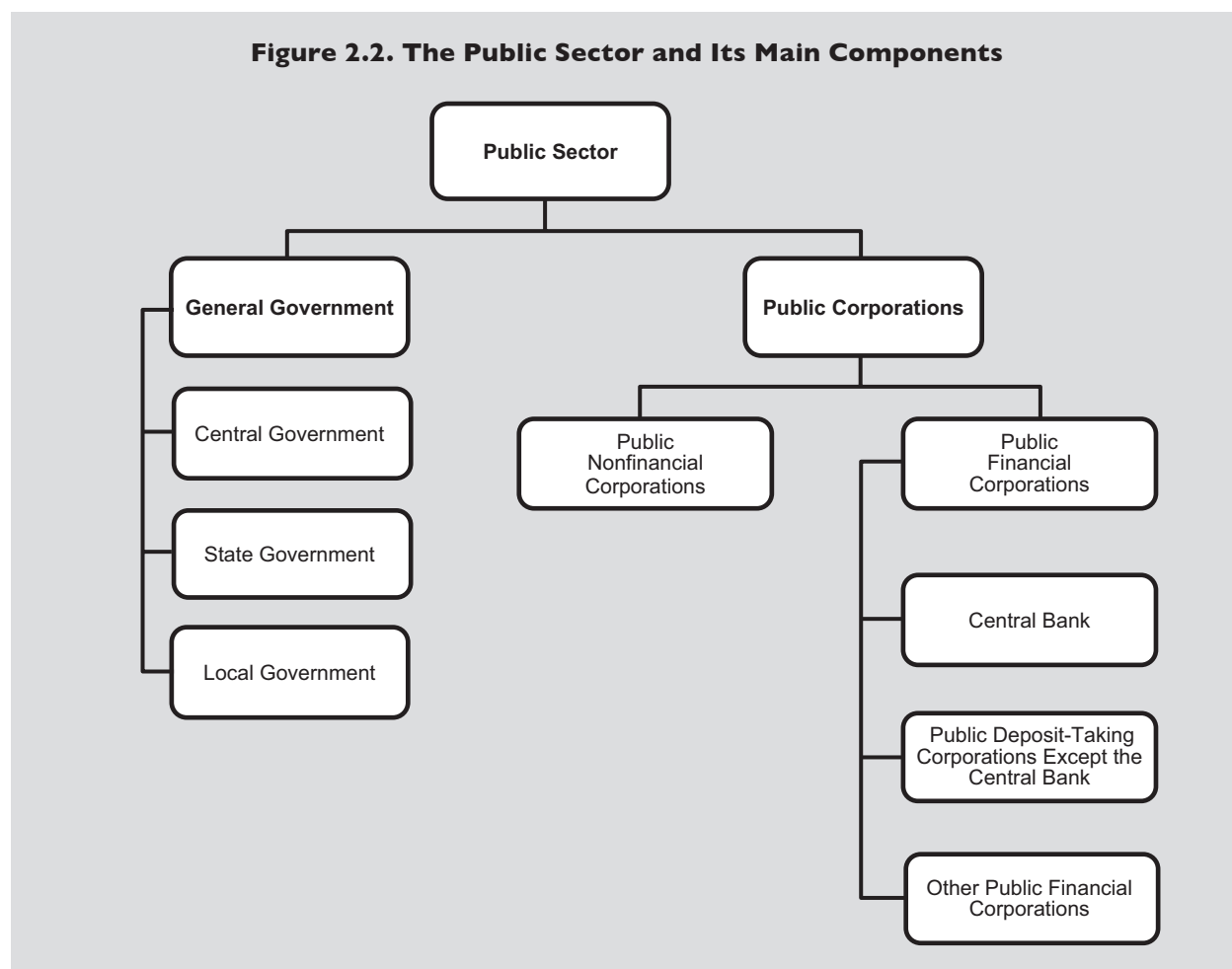
2.20 The public sector is a combination of the general government sector and all public corporations. Figure 2.2 illustrates the public sector and its main components.

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.

¹⁸Economically 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

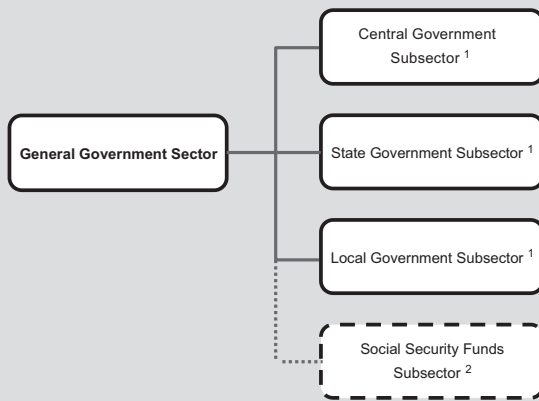
funds and their role in fiscal policy may require that statistics for all social security funds be compiled as a separate subsector of the general government sector.

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



¹ Includes social security funds.

² Alternatively, social security funds can be combined into a separate sector, as shown in the box with dashed lines.

- 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. Indicators of government control of NPIs are discussed in paragraph 2.18.

2.29 Sometimes, governments establish legal entities that cannot act independently and are simply a passive holder of assets and liabilities. Such an entity is referred to as an **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 components of the level of government that controls them (i.e., as part of its parent unit or extrabudgetary units of the parent unit(s)).

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 (to the extent that they are nonmarket producers and are controlled by another government unit), either as an extrabudgetary government unit or with the government unit that controls the SPE.²¹

2.31 Distinct from a resident artificial subsidiary, is a legal entity undertaking only ancillary activities.²² Such an entity will in general not satisfy the criteria to be an institutional unit (similar to resident artificial subsidiaries).

2.32 Another example of a resident artificial subsidiary is where government establishes 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. Because such entities are not separate institutional units and merely facilitate government borrowing, they should be classified in general government, either as an extrabudgetary unit or with the government unit that controls the central borrowing

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).

²²An *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.

authority. Where these central borrowing authorities are created as a resident in an economy different from that of its parent, they should be classified as captive financial institutions (see paragraph 2.55) in the financial sector of the host economy.

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 financial 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 or buys 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, inter-

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.

est 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 public sector 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 public sector 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) (e)=(f)-(d)-(b)	Closing observed market value of bond (f)	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 liabilities in the balance sheet.
- 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.

