

# Data Collection, Compilation, and Dissemination

*This chapter describes the collection of source data from various source data systems, and considerations in the compilation and dissemination of public sector debt statistics.*

## A. Introduction

**6.1** While the process of collecting, compiling, and disseminating public sector debt statistics will vary from country to country, the following common aspects need to be considered (see Figure 6.1):

- Compilation and dissemination of the statistics;
- Main data sources; and
- Source data system(s) and/or source data compilers, including the underlying data requirements.

**6.2** A precondition for reliable and timely statistics is that a strong and well-organized institutional setting for the compilation of statistics on public sector debt is in place—so that public sector and publicly guaranteed debt is well monitored and managed (see UNCTAD, 1993). This chapter first considers some of the key institutional issues to be addressed when undertaking the compilation and dissemination of public sector debt statistics. In particular, this chapter emphasizes the need for:

- A coordination of effort among official agencies, with one agency having overall responsibility for compiling and disseminating the complete set of public sector debt statistics;
- Adequate resources and appropriate legal backing for the source data collection that will allow the compilation and dissemination of the public sector debt statistics; and
- Dissemination of the public sector debt statistics in a frequent and timely manner that serves users' needs.

**6.3** Subsequently, this chapter provides guidance on how public sector debt statistics might be collected and compiled. This guidance is not intended to be comprehensive. Indeed, some elements of public sector debt statistics are easier to collect and compile than others. For example, compiling public sector debt statistics on a government's domestic currency loan from a group of domestic banks is more straightforward than collecting information on nonresident ownership of a government's domestic bond issues. But both sets of statistics are required. It is particularly difficult to obtain statistics on ownership of traded securities, because each change of ownership of these securities may not be registered—this issue is addressed in Chapter 7.

## B. Some Institutional Considerations for the Compilation and Dissemination of Statistics

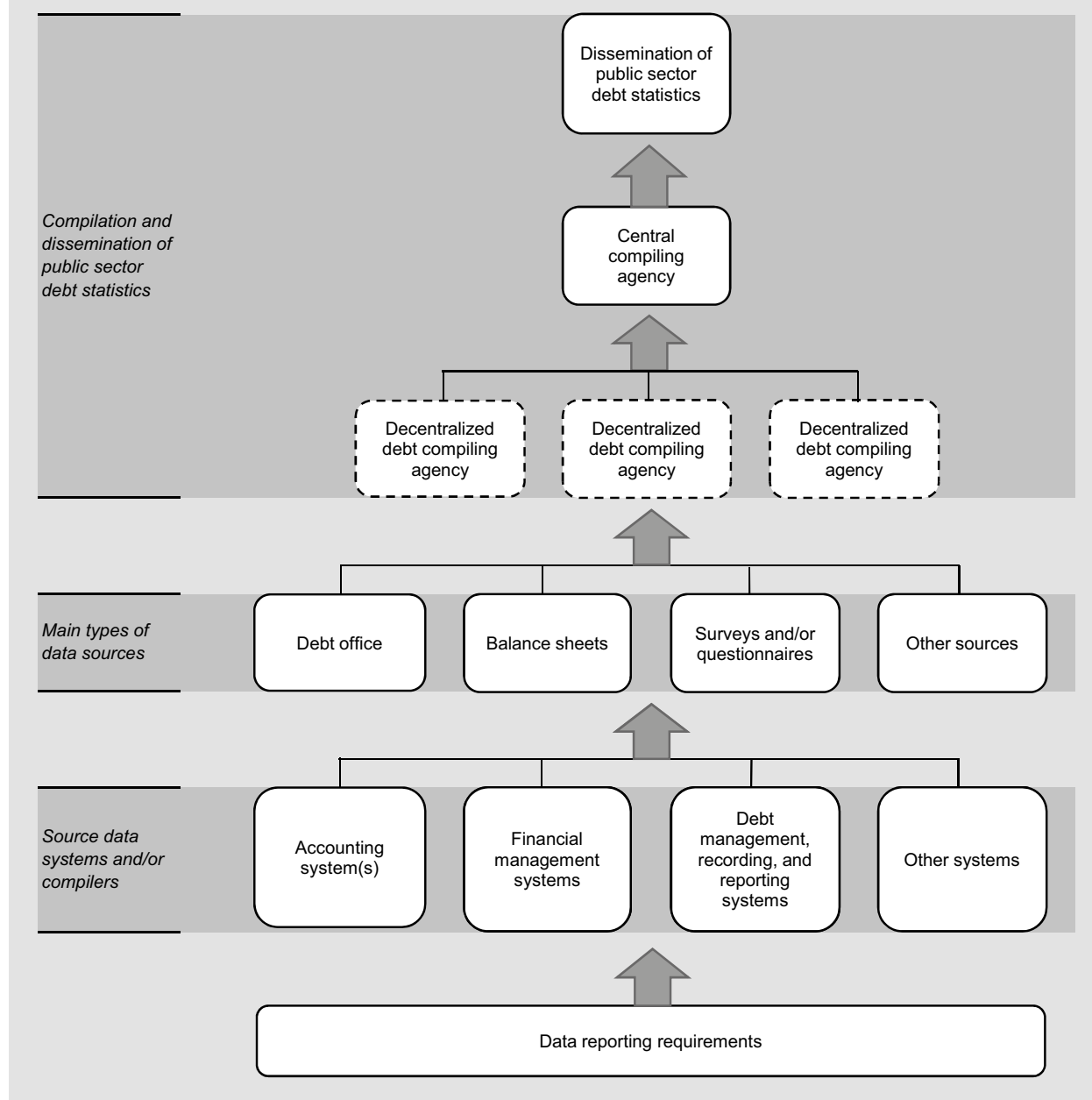
**6.4** This section deals with the two final aspects in the public sector statistics compilation process: the compilation and dissemination of the statistics.

### I. Coordination among official agencies

**6.5** If the responsibility for debt compilation is shared between several agencies, it should be clearly established which agency has the primary responsibility for compiling and disseminating the complete set of public sector debt statistics—hereafter referred to as the **central compiling agency**. Responsibility may be assigned through a statistical law or other statutory provision, interagency protocols, executive decrees, etc.

**6.6** This *Guide* does not recommend which institution should be responsible for compiling and disseminating public sector debt statistics; this depends on the institutional arrangements in each country. Nonetheless, it is likely that the central compiling agency is the central

**Figure 6.1. Main Considerations in the Process of Collecting, Compiling, and Disseminating Public Sector Debt Statistics**



bank, the ministry of finance, an independent debt management office, or a national statistical agency.<sup>1</sup>

**6.7** In whatever way the statistics are to be collected and compiled—and invariably a range of methods

<sup>1</sup>A national statistical agency may be a user of the debt data, in the sense that the data are communicated by the ministry of finance and/or the central bank to the national statistical agency for publication.

and approaches will be adopted—the process will be resource intensive. Thus, where there is more than one agency involved in the compilation of public sector debt statistics, there should be a coordinated and cooperative effort, avoiding duplication of effort and ensuring as far as possible consistency of approach across related data series. With computerized techniques, different units can be connected through computer networks

facilitating the specialization of the different institutions concerned, without hindering data reporting and compilation. In this regard, procedures to ensure, as far as possible, smooth and timely flows of data between data compiling agencies are essential.

**6.8** It is essential that adequate agreements or procedures exist to facilitate data sharing and coordination among the central compiling agency and other data-producing agencies (i.e., source data producing agencies or decentralized compiling agencies). Among other things, these procedures should provide for the effective and timely flow of source data to the central (or decentralized) agencies that compile public sector debt statistics.

**6.9** It is also important to ensure that well-established contacts between the staff of the different agencies exist. This will facilitate dealing with any problems, or difficulties, in an expeditious manner, and avoid duplication of data coverage in the different institutions. One way of encouraging cooperation, developing contacts, and resolving problems that arise is to hold regular meetings among staff of the various agencies, at the working level. Not only could these meetings help resolve problems that might be arising, but there would also be an opportunity to notify each other of upcoming developments and possible future enhancements or changes to collection systems. This type of cooperation helps ideas to spread and improvements to be made, allows institutions to understand each other's position, and helps build important personal contacts.

**6.10** If public sector debt statistics are compiled by different agencies, the following considerations must be borne in mind:

- The concepts used and instruments presented should be consistent, or at least reconcilable. When merging together various sources, the central compiling agency must ensure that other contributing agencies are aware of, and supply statistics that are consistent with, core concepts and presentation requirements (such as residence, valuation, etc.), as outlined in this *Guide*. Indeed, the central compiling agency should develop expertise in these standards. In a sense, the central compiling agency should act as the guardian of these standards to ensure that statistics supplied by the other agencies meet the requirements in terms of the coverage, concepts, valuation principles, basis of recording, as well as the periodicity and timeliness on which these statistics have to be provided.

- It is recommended that the central compiling agency carries out, as far as possible, cross-checking of data on a regular basis (at least once a year). Such cross-checking will involve comparing data with those of creditors as well as other macroeconomic statistics, such as external statistics (International Investment Position and external debt) and monetary and financial statistics. The comparisons can either be undertaken on an individual instrument basis (for example, specific government loans) by the agency responsible for compiling these statistics, and/or at an aggregate level using other macroeconomic statistics datasets and compare, for example, external debt statistics of the government sector.
- There should be mechanisms to ensure that the disseminated public sector debt statistics continue to meet the needs of policymakers and other users. Meetings could be periodically convened with policymakers and other data users to review the comprehensiveness of the public sector debt statistics and to identify any emerging data requirements. New initiatives could be discussed with policy departments and statistical advisory group(s); such discussions provide scope for seeking additional resources. From these discussions, and in consultation with both users and other compiling agencies, the central compiling agency might devise a strategic plan to improve the quality and coverage of public sector debt statistics.

## 2. Resources

**6.11** Resource allocation decisions for the compilation of statistics are the preserve of the authorities in each country and should be periodically reviewed. Nonetheless, the authorities are encouraged to provide, at least, adequate resources to perform existing tasks—that is, adequate staff, financial, and computing resources. In particular, key staff should be knowledgeable and well-versed in public sector debt concepts and compilation methods, and a core contingent of trained public sector debt statisticians should be retained at any point in time. Instructions for performing existing tasks should be maintained. New compilers could be provided formal and on-the-job training in public sector debt compilation methods, including international statistical standards and system procedures for handling and processing of data.

### 3. Legal framework

**6.12** Obtaining appropriate legal support for statistics collection could be a complicated and lengthy process, likely to be undertaken infrequently. Given this, a first step should be to determine whether there is any existing legal support for statistics collection that could be employed to acquire the required information. If not, there may be a need to seek additional legal support.

**6.13** The legal framework for the collection of statistical information varies from country to country, depending, not least, on the institutional arrangements and the historical development of statistical gathering. Nonetheless, some elements typically covered include:

- A designation of the type of entities that the central compiling agency can approach for data (for example, entities in the public corporations sector) and for what purpose (for example, to compile flows and stock positions in financial assets and liabilities).
- The boundaries of the compiling agency's responsibilities, without being so restrictive that the agency does not have the freedom to adapt as new developments emerge.
- A provision for the possibility of imposing penalties on respondents for nonresponse, which should be accompanied by an appropriate legal mechanism for enforcement.<sup>2</sup>
- While generally not applicable to general government units, because of their accountability function to the public, a clear statement may be needed that information supplied by individual public sector entities outside the general government sector would not be separately disclosed and would only be published in the form of statistical aggregates (except, perhaps, where explicit permission is given from an individual entity to disclose information), along with appropriate penalties for the compiling agency and, in particular, individual employees, if such information is disclosed.
- A prohibition on the use by the authorities of information supplied by individual entities for any purpose other than statistics compilation, thus establishing the independence of the statistics compilation function from other government

activity.<sup>3</sup> The prohibition should be supported by penalties and a mechanism for their enforcement.

- A prohibition on other government agencies influencing the content of statistics releases.<sup>4</sup>
- The establishment of an oversight committee of independent experts to help ensure the professionalism and objectivity of the compiling agency.

**6.14** Within such a legal framework, the public sector debt statistics compiler would have the necessary support for the collection of information from, for example, public corporations or extrabudgetary government units. However, compilers should use the legal framework to help and encourage the public sector entities to report rather than solely relying on the legal backing.

### 4. Dissemination of public sector debt statistics

**6.15** The compilation of public sector debt statistics is undertaken for the ultimate purpose of making them available to policymakers and other users. Comprehensive and timely statistics on public sector debt:

- Allow users to monitor the evolution of the public sector's debt liabilities and its debt-service obligations over time;
- Can provide early warning signals of possible debt-servicing problems;
- Serve as an indicator of the sustainability of government and public corporations' policies; and
- Serve as essential inputs for government budget preparation, for approval by parliament, for execution, for forecasting, as well as for compiling other macroeconomic statistics.

**6.16** Statistics should be publicly disseminated on a frequent and timely basis, preferably according to a well-established, pre-announced release schedule. The dissemination of statistics could be in print and/or electronic form. As part of the dissemination process, the concepts, definitions, classifications, and methodology

<sup>2</sup>Consideration might also be given to the possibility of imposing penalties on respondents for misreporting (i.e., intentionally providing incorrect data) and late reporting.

<sup>3</sup>This has limited applicability for government entities and perhaps only apply to commercial-in-confidence aspects of public corporations.

<sup>4</sup>Data integrity is very important for the statistical function. Where compiling agencies have an operational as well as recording function, consideration might be given to delineating functions so that the statistical function operates at "arm's length" from other functions.

used should be documented and disseminated in publication form, at regular intervals.<sup>5</sup> This metadata could also identify any significant deviations from internationally accepted standards, biases in the statistics, and information about response rates, if any surveys are employed in collecting public sector debt statistics. The IMF's Special Data Dissemination Standard (SDDS) and General Data Dissemination System (GDDS) provide further guidance on good practices for the timeliness and periodicity of public sector debt statistics being disseminated.<sup>6</sup>

**6.17** Often, to meet the legitimate needs of users, statistics will be published that could well be subject to later revision. In such cases, users should be alerted that the initially published data are preliminary and may be subject to revision. If revised data are later published, users should be informed of the revisions, with explanations appropriate the size of the revisions. Also, if major changes to the statistical methodology are to be implemented, it is strongly recommended that users be given advance notice, and sufficient back runs of data provided after the revisions have been published. In general, providing the user with such information is likely to engender greater confidence in the statistics and may help encourage a "culture of reporting" to the compiling agency(ies).

## C. Main Data Sources

**6.18** This section examines possible data sources and range of methods that can be used by the compiling agency(ies) to compile public sector debt statistics.

**6.19** Ideally, the relevant information needed to compile statistics on all aspects of public sector debt (see Chapter 5) is built into the government and public corporations' accounting system(s), and debt statistics can be relatively easily derived from a financial information management system or a debt recording and reporting system. However, for most countries, this may not be the case or it may only be so for some public sector units. If so, alternative methods should be employed. Statistics can be collected from the debtor, from the creditor, or indirectly through information in the form of surveys, regulatory reports, published financial statements (in particular, balance sheets) of public sector units, and/or from other administrative

records. Information may also be available from monetary and financial, international investment position, and other macroeconomic statistics. The more detailed the source data, the more accurate are the public sector debt statistics being compiled.

**6.20** Information collected at the level of the individual debt instrument provides the compiling agency(ies) with the greatest flexibility in meeting user requirements. Also, instrument-by-instrument detail supports detailed quality checks. However, it may not always be possible or practical to collect information at the level of the individual debt instrument.<sup>7</sup> It may well be necessary to use a combination of data sources. For example, information could be collected at the individual debt instrument for large public corporations, and by other means (such as periodic surveys, see paragraphs 6.32–6.38) for small public corporations.

**6.21** Table 6.1 summarizes, by debt instrument and main component of the public sector, the possible data sources for compiling public sector debt statistics. Four main types of data sources—which are discussed in detail below—may be distinguished:

- Debt office(s);
- Balance sheets;
- Questionnaires and periodic surveys; and
- Other sources.

**6.22** As illustrated in Figure 6.1, data could be drawn from one, or more, of the following source data systems and/or source data compilers to obtain source data<sup>8</sup>:

- Accounting systems;
- Financial management systems;
- Debt management, recording, and reporting systems; and
- Other systems.

### I. Debt office(s)

**6.23** A debt office, or an asset and liability management office/department, would usually be

<sup>5</sup>These metadata may be included in a regular publication of public sector debt statistics or published separately.

<sup>6</sup>See <http://www.dsbb.imf.org> for details on the SDDS and GDDS.

<sup>7</sup>In many countries, the majority of public sector debt other than that of the central government (for example, public corporations) tends to be concentrated in a small number of the largest units. For example, 90 percent of public corporations' debt may be concentrated in the largest five companies. There is also a tendency in many countries for borrowing over a certain size to be limited to only a few public sector units.

<sup>8</sup>The systems would take into account source data requirements.

**Table 6.1. Possible Data Sources for Compiling Public Sector Debt Statistics**  
**A = Debt management office; B = Balance sheet(s); C = Survey / questionnaire; D = Other sources**

Debt instrument	Special drawing rights (SDRs)	Currency and deposits	Debt securities	Loans	Insurance, pension, and standardized guarantee schemes	Other accounts payable
<b>Main public sector components</b>						
Budgetary central government	B, D	B; C	A; B	A; B	B; D	B; C
Extrabudgetary central government	—	B; C	A; B; C	A; B; C	B; C; D	B; C
Social security funds	—	B; C	A; B; C	A; B; C	B; C; D	B; C
<b>Central government subsector</b>	<i>Calculated (for consolidation, see Chapter 8)</i>					
State governments	—	B; C	A; B; C	A; B; C	B; C; D	B; C
Local governments	—	B; C	A; B; C	A; B; C	B; C; D	B; C
<b>General government sector</b>	<i>Calculated (for consolidation, see Chapter 8)</i>					
Public nonfinancial corporations	—	B; C	A; B; C	A; B; C	B; C; D	B; C
<b>Nonfinancial public sector</b>	<i>Calculated (for consolidation, see Chapter 8)</i>					
Central bank	B	B	B	B	B	B
Deposit-taking corporations except the central bank	—	B; C	A; B; C	A; B; C	B; C; D	B; C
Other financial corporations	—	B; C	A; B; C	A; B; C	B; C; D	B; C
<b>Financial public sector</b>	<i>Calculated (for consolidation, see Chapter 8)</i>					
<b>Total public sector</b>	<i>Calculated (for consolidation, see Chapter 8)</i>					

the main source for stock (and flow) data on **debt securities** and **loans**. Many countries have one debt office—the government debt office—covering the debt securities issued by, and loans of, various components of the public sector. However, it is possible that state and/or local governments and public corporations may have their own debt offices if they are issuers of debt securities and/or large borrowers from abroad. While the remainder of this section discusses a government debt office as data source, the same principles would apply to debt offices at other levels of the public sector.

**6.24** Typically, a government debt office is either within the ministry of finance or constituted as a separate agency within the government sector or the central bank. Whether the government debt office is the central compiling agency of public sector debt statistics or not, it is, for reasons outlined earlier in this chapter, also important that the government debt office coordinate, as appropriate, with any other agencies involved with the compilation of public sector debt statistics.

**6.25** A government debt office is responsible for debt management, which involves seven functions. These are discussed in detail in the annex to this chapter. Proper records of debt (see paragraphs 6.42–6.44)

are fundamental for effective debt management and the availability of accurate and up-to-date statistics determines how effectively the debt office can carry out its other functions—whether they are operational or analytical. It is critical to the smooth functioning of a government debt office that the compilation, recording, and dissemination (if the debt office is the central compiling agency) of debt statistics be undertaken in a timely and comprehensive manner.

## 2. A balance sheet

### a. General considerations

**6.26** Typically, extrabudgetary units, social security funds, and public corporations compile financial statements, including **balance sheets**, usually according to an internationally accepted accounting standard. These balance sheets are compiled annually, and often on a quarterly basis as well. Budgetary units of central government, state governments, and local governments are also increasingly implementing accrual accounting systems and compiling financial statements (including balance sheets) following international (or national) accounting standards.

**6.27** A balance sheet provides, in particular, information on “nontraditional” debt instruments, such

as **special drawing rights (SDRs),<sup>9</sup> currency and deposits, insurance, pension, and standardized guarantee schemes, and other accounts payable.** A balance sheet also provides information on financial assets held in the form of debt instruments. However, balance sheets are usually presented on an aggregated basis and compilers will have to find additional detailed information, often captured in the notes to the balance sheets. If the balance sheet and notes to the balance sheet do not provide the required information to compile debt statistics, additional information—such as the residence of creditors—should be collected from supplementary sources.

**6.28** In addition to liabilities of public sector units, compilers should collect data on outstanding guarantees given by public sector units (for example, by central government units or deposit-taking financial corporations in the public sector). These public sector units do guarantee debts of public and private non-financial sector borrowers, and this information should be disseminated as a memorandum item to the debt statistics, as described in Chapter 5.

**6.29** When using balance sheets as sources to compile public sector debt statistics, compilers should understand the methodology underlying the debt liabilities in the source balance sheet, to ensure that the debt statistics they compile reflect, as relevant, the proper valuation, classification, and basis of recording. If needed, source data should be adjusted to reflect the proper valuation, classification, and basis of recording.

#### **b. Public deposit-taking financial corporations**

**6.30** An important source of information on debt of public financial corporations is the public deposit-taking financial corporations sector. These public financial corporations are closely regulated in nearly all countries—and so are usually identifiable to the compiling agency—and have to report balance sheet data to central banks or regulatory agencies both for supervisory and monetary policy purposes. However, balance sheets typically do not contain sufficient detailed information on the maturity of loans and deposits; and additional information would be required to calculate the debt-service payment schedules.<sup>10</sup> This

is best achieved by obtaining and using information on individual debt instruments. When these data are not available to the compiling agency, and depending on the type of debt liability, the compiler can estimate projected interest costs using stock position data and appropriate representative interest rates, but some indication of a payment schedule is required for projecting principal payments.

**6.31** Central government and public corporations sometimes borrow from foreign lenders via resident public deposit-taking financial corporations instead of directly from foreign lenders themselves. The loans may be denominated in foreign currency, and central government or public corporation as the ultimate borrower, not the public deposit-taking corporation as the immediate borrower, assumes the exchange risk. There is potential for double counting if the government and the public deposit-taking corporation report the foreign currency loan as an external public sector debt liability. If the public deposit-taking corporation borrows externally, it is this corporation—not the government—that has the external debt liability. The government has a domestic debt liability in the form of a loan toward the public deposit-taking corporation.<sup>11</sup>

### **3. Questionnaires and periodic surveys**

**6.32** Information collected at the level of the individual debt instrument is preferable but may not always be possible for a variety of reasons. Balance sheet information may either not be suitable or may be unavailable. If so, compilers will have to use **questionnaires** and/or **periodic surveys** to obtain source data for the compilation of public sector debt statistics. Questionnaires may be used to collect source data from extra-budgetary government units, state governments, local governments, and/or some public corporations. Periodic surveys would typically be used when the number of reporting entities is large, such as with local governments.

**6.33** In determining the reporting population for a periodic survey covering a large number of entities, such as local governments, various approaches are possible:

<sup>9</sup>SDRs liabilities will be in the central government or central bank's balance sheet, depending on the arrangements in the country. SDRs are discussed in Chapter 3, paragraphs 3.21–3.24, and Chapter 4, paragraphs 4.161–4.165.

<sup>10</sup>Examples of the type of disaggregated information that could be collected from a financial corporation's balance sheet are set out in

IMF (2000d), *Monetary and Financial Statistics Manual* (see, for example, Box 7.1, p. 76).

<sup>11</sup>This claim of the public deposit-taking corporation on government will be eliminated in consolidation when public sector debt statistics cover both these units, thus leaving only the external liability of the public deposit-taking corporation in the statistics.

- **Census:** Including in the survey all members of the population;
- **Partial coverage collection:** Including in the survey all entities above a certain threshold; and
- **Stratified random sample:** A procedure that groups population components according to the size of selected activity so that entities within different strata have different probabilities of selection.

It is important that partial coverage collections or sample surveys are supplemented with a census—at least, every three years.

**6.34** The design of the questionnaire or survey form is particularly important because it needs to meet all foreseeable data needs—it is unlikely that the form can be changed very frequently, not least because respondents will develop systems to compile the required information—and incorporate quality-control features (for example, cross-checks on the form itself or with related data collections). However, if the survey form is too complex or detailed, there could be a negative impact on quality as respondents may have difficulty supplying the required information.

**6.35** Questionnaires and surveys should cover all debt instruments. If the information on debt instruments is provided on an instrument-by-instrument basis, details collected could include name of lender, residence and type of lender, currency, amount outstanding, start date of contract, due date of contract, scheduled payments of principal, interest payments, put options, and relationship between borrower and lender. Similar information could be required for debt securities, although the identity of the lender may be unknown to the borrower. Although this information is detailed, it should be readily available to the entity for its own accounting purposes and, in some instances, may be public knowledge. Also, if possible, it is preferable to collect data on debt liabilities and financial assets in the form of debt instruments together on the same survey form, to ensure consistency in the calculation of net debt statistics.

**6.36** Questionnaires and surveys should include clear reporting instructions to ensure high response rates and high-quality responses. Also, seminars and workshops explaining the reporting requirements for respondents are of value to both respondents and the compiling agency, and are encouraged by this *Guide*.

**6.37** There are, at least, three important steps that can be taken to encourage response to the compiling agency:

- There should be legal backing for the surveys, so that as a last resort the compiler has some means of redress if the respondent proves unwilling to report. This legal backing must make clear that any data supplied will be used only for statistical purposes, and this statement must be honored in letter and spirit by the compiling agency. Some respondents may well be reluctant to supply data if they believe their individual data will be shared among other agencies.
- Government departments that have a policy interest in public sector assets and liabilities should be made aware of the reporting needs and encouraged to promote the need for good reporting, whenever possible, when dealing with public corporations. Better data helps promote better-informed policy-making. In other words, the authorities should build the idea of good reporting into their policy objectives in this field. Often, those with policy responsibilities have access to senior officials in public corporations or other levels of government and may deliver the message of good reporting at a more senior level than might be available to the central debt compiling agency.
- The compiling agency, along with other agencies responsible for statistics, should encourage a “culture of reporting.” This is usually achieved in the medium to long term. Steps to encourage a culture of reporting include meeting potential respondents and discussing issues of concern; developing report forms that are in line with management reporting systems and are not overly complex; disseminating and promoting the final output in a transparent manner; and illustrating the usefulness of the final output.

**6.38** Even if data are supplied, how can they be confirmed to be reliable? First, if data are supplied in a balance sheet that is part of an audited set of integrated financial statements, this adds a degree of consistency in its own right. Also, if a publicly quoted company supplies data, published accounts from the company are likely to be available against which data can be checked.<sup>12</sup> Second, wherever possible, data should be cross-checked with other sources. For example, transactions data can be

<sup>12</sup>Because accounting standards do differ in some respects from statistical standards, this approach may provide a broad rather than close check.

compared with changes in stock position data if different sources are used. Net borrowing data from revenue and expenditure accounts, or profit and loss accounts of companies, can be compared with the buildup of net financial assets and liabilities because the two are interrelated. Data on revenue in the form of property income could be compared with stock position data to see whether the implied rates of return on assets are realistic. Data on expense in the form of interest and other property expenses should reflect the cost of liabilities.

#### 4. Other sources

**6.39** If no information is available from the debt office, balance sheets, or questionnaires and surveys, **other data sources** have to be used. In particular, data could be obtained from sources other than those discussed above for liabilities of (i) public sector employees pension funds managed by a public corporation, (ii) unfunded public sector employees pension schemes, and (iii) provisions for calls under standardized guarantee schemes. For example, debt statistics compilers may request actuarial companies to estimate the liabilities for unfunded government employer pension schemes.<sup>13</sup> To ensure consistency, it is important that the same sources and methods be applied over time.

**6.40** In countries with some form of exchange control, the central bank requires approval or registration of external borrowing. In such cases, the central bank can provide information on external borrowing—particularly in the case of public corporations.

## D. Some Data Collection and Compilation Considerations

**6.41** While this section may be applied to all debt instruments<sup>14</sup> that form part of public sector debt, it particularly applies to debt securities and loans. The central compiling agency(ies) should capture data on all public sector and publicly guaranteed debt.

### I. How should data be collected and compiled?

**6.42** To establish a proper debt record, detailed information about debt instruments and related flows

needs to be compiled. For those countries that may not have proper records of debt data, there may be a need to first compile a thorough inventory of existing debt (and metadata) in order to establish the debt stock positions, including any arrears that have accumulated on principal and interest. Once the debt stock position is known, procedures should be put in place to obtain, on a regular basis, information on existing and new borrowing, as well as information on other transactions and other economic flows that affect the debt stock position. There may be a need to establish formalized institutional arrangements for the comprehensive and timely flow of information to the debt office. Table 6.2 lists information that should be collected for each debt instrument. This table is explained in more detail below.

**6.43** Data compilation is best undertaken on an instrument-by-instrument basis, tranche by tranche, and in its original currency. For each borrowing instrument, there are basically three types of information that need to be compiled: (1) the core details and terms that will produce the amortization and disbursements tables, as well as the stock position data; (2) details on actual disbursements, as well as the changes in the committed undisbursed amount if, say, there are cancellations and/or increases (for example, with a project loan); and (3) details on actual debt-service transactions. There are other types of information required, and these are described below (under the heading “Additional Data Requirements”).

**6.44** If the debt instrument is tradable, additional information will be required in order to attribute ownership by residence. This information may come from a different agency, which is responsible for capturing information on the nonresident ownership of traded securities. Methods of capturing information on nonresident ownership of traded securities are set out in Chapter 7.

#### a. What are the core details and terms of the borrowing?

**6.45** Basic information on each debt instrument should normally be available from the loan or credit agreement or related documentation, a copy of which should be deposited—preferably under legal statute—with the debt office for all public sector or publicly guaranteed debt instruments. Information should include the borrower (debtor), the amount committed, any grace period and the maturity date(s), interest rates (variable or fixed) and any fees that are to be paid, and

<sup>13</sup>See Valuation in Chapter 2 of this *Guide*.

<sup>14</sup>The debt instruments are SDRs, currency and deposits, debt securities, loans, insurance, pension, and standardized guarantee schemes, and other accounts payable; see Chapter 3.

the dates for payments of interest and the type of repayment profile of principal (see also paragraph 6.52).

**6.46** Where possible, details on the creditor and creditor category (government, central bank, multilateral institution, etc.) and the currency of disbursement and debt service should be maintained. Data on the purpose or the end use of the amount borrowed are also important for analyzing the sectors that have benefited from the borrowing, while the guarantee status of the debt instrument will help assess the risk exposure of the government through the extension of guarantees to other borrowing entities.

**6.47** Information on the terms allows the debt office to forecast the debt-service requirements for each debt instrument. In the case of debt securities, information such as the issue price and the yield would need to be captured as well.

## **b. Disbursements**

**6.48** The debt office will also need to compile information on disbursements, including actual and expected disbursements. From such information, to the extent possible, accurate projections of debt service can be made. Clearly, actual disbursements affect the total of the undisbursed amounts and, in many cases, the expected future pattern of disbursement. Data on disbursements can usually be obtained from the borrower, including project-implementing agencies and creditors (on an instrument-by-instrument basis or for groups of instruments).

**6.49** Because different types of borrowings can be disbursed in various ways, the task of compiling disbursement data can be complex. For example, in the case of project loans, disbursement can take the form of advances to the borrowing entity, direct payment by the lender to suppliers of goods and services, or on the reimbursement basis after the borrower has already paid the suppliers. Under the advances approach, it is the periodic payments by the lender to the borrowing government that constitutes disbursement; under the direct payment approach, it is the moment when the lender pays the supplier (although the debtor may have a trade creditor liability to the supplier when goods are supplied and before the lender pays); and under the reimbursement approach, it is when the reimbursements are made to the borrower (for example, a government). The debt office must keep track of these transactions and reconcile its records at regular intervals with information maintained by the project-implementing agencies.

## **c. Debt-service payments**

**6.50** All data on debt-service payments need to be compiled on a regular and timely basis. Information such as principal repayments, interest accrued, interest payments, commitment fees, service fees, and other fees and charges (including penalty fees) will not only allow the debt office to ensure that payments due are made on time, but also enable it to track those debt instruments that are in arrears. Debt-service data are primarily obtained from the terms and conditions of the contract but can also be obtained from statements sent by creditors. For government loans, information can also be provided by those responsible for making the payments, such as the accountant general or the foreign payment department in the central bank. Debt service on public enterprises' debts can be obtained directly from the borrowing entity or through a unit in the ministry of finance, which monitors this category of debt. Data for private debt that is guaranteed by the government can be obtained through a reporting mechanism agreed upon when guarantees are originally issued.

**6.51** Where the debt office is at the center of the government's financial administration and public sector control system, the debt office itself orders the payment for budget execution, triggering at the same time the formal accounting procedures within the government for public debt service. This framework, known as an Integrated Financial Management System (IFMS), is frequently implemented in projects financed by the World Bank, or other regional development banks, by way of loans for the modernization of the public sector. This interface with the budget execution is not only an outflow of resources—that is, debt service—but also an inflow—when a deposit in the treasury accounts is made from the proceeds of a debt instrument. The debt office should alert the budget office and the treasury of the availability of resources.

## **d. Additional data requirements**

### *i. Exchange rates and interest rates*

**6.52** Given that debts can be contracted in various currencies, it is important that the debt office collects and maintains information on the relevant exchange rates for all currencies in which borrowing has taken place, and those related to financial derivative contracts in foreign currency. This information should be compiled on a regular basis, including for dates on which transactions have occurred and for

**Table 6.2. Information to be Compiled on Each Debt Instrument**

Type of Information	Description
<b>I. Details of Borrowing Instrument</b>	
Purpose of borrowing	Descriptive title
Agreement date	Date agreement has been signed
Type of instrument	Type of borrowing instruments
Effective date	Date borrowing becomes effective
Type of borrowing	Whether single currency or multicurrency or multi-tranche
Amount borrowed	Original amount borrowed or revised amount after cancellation or enhancement
Currency of borrowing	Original currency and currencies of disbursement and repayments
Participants:	
• Borrower	Whether government, public corporations, or private sector
• Implementing agency	Agency in charge of implementing project
• Creditor	Name and type of creditor (multilateral, bilateral, etc.)
• Disbursement agency	Name, if different from lender
• Creditor insurer	Name (and country, if nonresident)
Guarantee status	Borrowing by general government units, public corporations, or the private sector guaranteed by government, and percentage guaranteed
Insured	Whether borrowing is insured by export guarantee agency in creditor country and percentage guaranteed
Economic sector	Economic sector receiving the borrowing (for example, general government, public nonfinancial corporations, public financial corporations, etc.)
Use of funds	Whether to finance a project, etc.
<b>II. Disbursements</b>	
Disbursement period	Period during which disbursement is to take place
Method of disbursement	Such as direct disbursement or reimbursement
Expected disbursement pattern/profile	Forecast of how the borrowing will be disbursed
Actual disbursement	Currencies and amount of each disbursement taking place
<b>III. Borrowing Terms</b>	
Interest	Information on interest should include:
	• Interest type: fixed or variable rate
	• For variable rate: specify interest base/reference and margin/spread
	• Interest period: dates of payments
	• Basis for interest calculation (conversion factor: daily, monthly, semiannual, annual, etc.)
	• Months: actual number of days or 30-day month
	• Days in interest year (360/365)
Commitment fee	Rate levied on undisbursed (full or partial) amount
Penalty fees	Charges for late payment of interest and principal
Other fees	Such as agency fee, management fee, front-end fee
Principal	Maturity: repayment period/profile
	Type of repayment: bullet, equal or annuity-based, etc.
<b>IV. Actual Debt-Service Payments</b>	For each payment (of interest, principal, other charges) made:
	• Date, currency, and currency of transaction; amount of transaction in original currency, currency of transaction, domestic currency, and perhaps U.S. dollar and SDR
	For multicurrency borrowing: equivalent amount paid in borrowing currency
<b>V. Exchange Rate</b>	Exchange rates on each transaction date for relevant currency vis-à-vis the local currency
	Exchange rates for end of period (daily, weekly, month, quarter, year)
<b>VI. Interest Rates</b>	Prevailing variable interest rates of base/reference rate used by the creditor for each interest period
<b>VII. Debt Restructuring</b>	• Changes in terms as a result of debt reorganization, through rescheduling, refinancing (voluntary or involuntary), write-off, etc.
	• Date required:
	- Debt concerned; arrears, consolidation period
	- Debt-relief terms (debt forgiveness, reschedule)
	- Terms for rescheduled debt (applicable interest rate, repayment profile)
	- Transactions on actual debt-service payments or for rescheduled debt
	- Other transactions from buy-back or conversion/swap
<b>VIII. Financial Derivatives</b>	• Transactions arising from financial derivative contracts
	• Positions measured both in market value and notional amounts in forwards (including swaps) and options

end-periods (month, quarter, year, and, for certain short-term instruments, perhaps weekly). This is necessary because the disbursements and the debt-service operations should be recorded in the original currency, the currency of transaction (if different from the original one), and the domestic currency. For those instruments bearing variable interest rates, all relevant

rates should be updated for each interest period, thus enabling the debt office to project the debt-service requirements with respect to these instruments. If data on exchange and variable interest rates are to be compiled on a daily basis, it is highly convenient to have a specialized, online computer service to obtain this information.

## ii. *Changes in debt instrument amounts and debt restructuring*

**6.53** Information on any changes to individual debt instruments such as enhancements or cancellation of the debt liability, or a reorganization of the debt through debt forgiveness, rescheduling, refinancing, conversion, prepayments, or debt assumption should also be compiled.<sup>15</sup> Similarly, information on debt reduction given through discounts on debt buybacks should be maintained. Debt office representation at the loan negotiation processes would help ensure that this kind of information is correctly recorded.

## iii. *Data on financial derivatives transactions*

**6.54** Although financial derivatives are not debt per se, these instruments have implications for debt management. For those countries where borrowers use financial derivatives to manage their risk exposures, data on transactions arising from these contracts should be compiled and recorded, as well as stock positions on outstanding contracts, in both market value and notional amounts (see Chapter 5 for more details on the dissemination of statistics on financial derivatives). Because financial derivative contracts can result in additional liabilities, their market value needs to be monitored on an ongoing basis. Any direct increase in service costs arising from hedging using financial derivatives (for example, commission expenses) should be registered and included in the public sector unit's expenses.

## 2. *How should information be stored?*

**6.55** A debt office should store information in an efficient and comprehensive computer-based debt management system (CBDMS) that can undertake a number of tasks and so support both operational and policy functions. Typically, a CBDMS should be able to do<sup>16</sup>:

- Debt recording (loan-by-loan);
- Debt reporting (loan-by-loan and on an aggregate basis);
- Debt analysis; and

<sup>15</sup>Indeed, a new instrument is being created when a change in the terms of a loan agreement results from a renegotiation (see Chapter 4).

<sup>16</sup>For examples of a CBDMS, see the annex to Chapter 10, which describes Commonwealth Secretariat's Debt Recording and Management System (CS-DRMS) and UNCTAD's Debt Management and Financial Analysis System (DMFAS).

- Linkages with other packages and systems of the public sector unit.

## 3. *How should data be validated?*

**6.56** Data validation is crucial in ensuring the compilation of **reliable** public sector debt statistics which, in turn, are essential for the management and formulation of a country's fiscal and other macroeconomic policies and strategies. For this reason, the *Guide* recommends that procedures be put in place at various stages of the data compilation and recording process to ensure that all data captured are properly validated and reconciled with other data sources. Although data provided to and supplied by the different institutions and departments—both international and domestic—should be checked for mutual consistency, these data may not be identical. But the data validation process should ensure that where differences do exist, the underlying factors for the differences are identified and explained to users of the data.

**6.57** Among the various procedures and actions that can support data validation are:

- Verification of data recorded in data entry sheets with data extracted from debt instrument agreements, statements, and other documentation;
- Systems with inbuilt validation procedures to check for inconsistencies at the time of the recording of the information in debt recording and management systems;
- Description of procedures for treating different types of debt and their components, including sources of data in a Debt Procedures Manual—a “how-to” manual that accumulates knowledge and passes on experiences;
- Periodic reconciliation of data obtained from one source with other sources of information—for example, data on debt-service payments can be checked with records kept by the foreign exchange payment department in the central bank; loan balances could also be verified with creditors and debtors on a regular basis; cash flows could be reconciled with bank accounts and with accrual records; and
- An audit mechanism that is consistent with the general rules of public finance control.

## Annex: Functions of the Government Debt Office

**6.58** Effective debt management by a government involves seven basic functions (Table 6.3): policy, regulatory, resourcing, recording, analytical, controlling, and operating (including active portfolio management). The policy, regulatory, and resourcing functions (known as the executive debt management functions) are undertaken at a very senior level—that is, Board of Ministers, directors, or a subset of it—and as such might be viewed as establishing the “rules of the game” by the highest levels of government. Hence, direction and organization is given to the whole debt management system. Once this framework has been decided upon, it is the government debt office that undertakes the other operating functions, implementing and executing the set of agreed “rules of the game.”

**6.59 Policy, regulatory, and resourcing.** These functions deal with the formulation of debt management objectives and strategy including the establishment of debt sustainability levels. A strategy may, for instance, impose statutory limits or overall guidelines on how much borrowing can be done by the public sector and/or by the economy as a whole, which in many cases is approved by the parliament. These functions also cover the institutional arrangements that govern the determination, raising, and disbursement of funds, and the related debt service, as well as the application of laws and regulations that govern debt management at the policy and operational levels. The resourcing function ensures that the recording, analytical, controlling, and operating functions pertaining to public debt management are performed by qualified staff and involves recruiting, hiring, motivating, training, and retaining staff. Resourcing should also provide for adequate physical facilities to perform the required tasks.

**6.60 Recording, analytical, and operating.** The recording function deals with the recording framework for all relevant debt management information and with those activities related to the raising of loans, the budgetary and reserves provision of debt-service payments, and the servicing of debt. The analytical, or statistical, function utilizes the information provided by the recording function. At the aggregate level, the analytical function involves macroeconomic analysis to explore the various options available, given economic and market conditions, and determining the future structure of the public sector debt. The operating function involves negotiation, utilization of loan proceeds, the servicing of debt, as well as active portfolio management. This latter covers the day-to-day active management of the debt portfolio and

takes into account market developments, such as in interest rates and exchange rates, which affect the portfolio in terms of desired performance and risk.

**6.61 Controlling.** The controlling function comprises monitoring debt-related activities to ensure policy objectives are attained, as well as the coordination of debt management activities. The monitoring function covers the entire range of activities involved in the maintenance of debt statistics and their analysis. This function helps ensure that policy objectives are realized and assists in the determination of debt management policies. This function must ensure, among other things, that the terms of new borrowings fall within the guidelines set by the senior level, that funds are being utilized on time and appropriately, and that repayments are made according to schedule. At the aggregate level, coordination is essential in ensuring that operational debt management is in accordance with executive debt management actions (that is, the policy and regulatory functions performed at the most senior level).

**6.62 Organizational structure.** The location and organizational structure of a government debt office (typically referred to as a debt management unit) will vary among countries. The differences between developing and developed countries are due to the differences in sources of financing. That is to say that the organizational structure is different if the country is mainly a borrower of funds from bilateral creditors or if the country is issuing bonds in the international financial market.

**6.63** For most developing countries, the debt management functions are not assumed by a single office but dispersed across several institutions. A common structure has a debt office in the ministry of finance, focusing on public sector domestic and external debt, with the central bank overseeing private debt, and often taking on the operational functions related to government debt as its financial agent. Ministries of planning and finance and the central bank each make economic forecasts that provide the framework for debt management. A high-level coordinating committee steered by the ministry of finance (or the prime minister’s office or a ministry of economic coordination) takes charge of debt strategy and policy, which should be embodied in the overall macroeconomic targets. In some developed countries, however, an independent government debt office conducts debt operations based on objectives set by the government as part of asset-liability management operations. Ireland, New Zealand, Sweden, and the United Kingdom have set up such structures that delineate separate objectives for debt management and monetary management. No matter what the structure, each country should have a transparent framework for the efficient conduct of all debt office functions.

**Table 6.3. Some Recommended Functions of a Debt Office**

Functions	Public Sector Debt		Private Sector Debt (depending on economy)
	Domestic	External	
Policy and regulatory	<ul style="list-style-type: none"> <li>Formulating debt-management objectives and strategy</li> <li>Decisions on volume, type of instruments, timing, frequency, and selling techniques</li> <li>Where feasible, development of a benchmark debt structure</li> <li>Communication linkages within government/cabinet/parliament</li> <li>Fixing borrowing ceilings according to budgetary and fiscal policy goals</li> </ul>	<ul style="list-style-type: none"> <li>Institutional arrangements for borrowing, disbursements, and debt service, including laws and regulations as well as policy for public sector guarantees</li> <li>Establish debt sustainability standards</li> <li>Policy framework for contingent liabilities</li> <li>Determine borrowing needs, desired terms, and borrowing resources</li> </ul>	<ul style="list-style-type: none"> <li>Determine the policy relating to private borrowing (external), dependent on nature of exchange regime and capital account of balance of payments liberalization)</li> <li>Establish resources and institutional arrangements for monitoring private sector debt (short- and long-term)</li> <li>Policy framework for contingent liabilities</li> </ul>
Recording and operations	<p><i>Primary market</i></p> <ul style="list-style-type: none"> <li>Organize distribution channels and selling procedures</li> <li>Management of debt operations, including auctions, subscriptions, etc.</li> <li>Institutional arrangements for contacts with market</li> </ul> <p><i>Secondary market</i></p> <ul style="list-style-type: none"> <li>Active management of government outstanding portfolio</li> <li>Development of debt and liquid markets</li> <li>Institutional arrangements for intervention and contacts with market</li> </ul> <p><i>Redemption</i></p> <ul style="list-style-type: none"> <li>For both new and old issues, administration of delivery and redemption of securities</li> </ul> <p><i>Recording arrangements</i></p> <ul style="list-style-type: none"> <li>Recording system for debt operations</li> <li>Management of records of debt holders/stock</li> <li>Servicing of government debt and its linkage to budgetary execution</li> <li>Administration of register of government debt instruments</li> </ul>	<ul style="list-style-type: none"> <li>All needed information flows are in place in order to gather the necessary data to cover information needs for operations and decision making</li> <li>Ensure appropriate budgetary provisions are made for debt and debt service contingent liabilities and the planning of reserves for externalization</li> <li>Checking invoices and ensuring debt service paid on due dates</li> <li>Managing disbursements, including claims for reimbursements</li> <li>For commercial market borrower, the whole range of activities pertaining to market participation and penetration</li> </ul>	<ul style="list-style-type: none"> <li>Where government is fully responsible for foreign exchange reserves, perhaps take account of the debt-servicing needs of private sector debt in deciding on the level of foreign reserve</li> </ul>
Statistical/analytical	<ul style="list-style-type: none"> <li>Maintain timely and comprehensive data on all borrowing instruments</li> <li>Generate periodic reports</li> </ul>	<ul style="list-style-type: none"> <li>Maintain timely and comprehensive data on loan-by-loan basis (forecast and actual) of commitments, disbursements, debt service, arrears (held for a computerized management system)</li> <li>Generate periodic reports</li> </ul>	<ul style="list-style-type: none"> <li>Maintain timely and comprehensive data (including short-term debt) on a loan-by-loan basis, as practicable, from various sectors such as deposit-taking corporations, other financial corporations, etc.</li> <li>Generate periodic reports</li> </ul>
Controlling/monitoring	<ul style="list-style-type: none"> <li>Projecting government borrowing requirements in context of fiscal and monetary targets and sustainable levels of debt</li> <li>Evaluate cost of borrowing (yields) of various instruments</li> <li>Control that the yearly ceilings are respected</li> </ul>	<ul style="list-style-type: none"> <li>Monitor debt indicators and other performance criteria to ensure debt sustainability</li> <li>Undertake analysis of debt portfolio in a macroeconomic framework and International Investment Position (IIP) framework</li> <li>Analyze database for debt restructuring, including rescheduling</li> <li>Undertake analysis for the purpose of risk management, especially exchange risks and other market risks</li> </ul>	<ul style="list-style-type: none"> <li>Monitor debt levels, nonperforming loans, and other liabilities bearing systemic risks</li> <li>Monitor relevant debt indicators and other performance criteria to ensure debt sustainability</li> </ul>
Active portfolio investment	<ul style="list-style-type: none"> <li>Active monitoring of risks (interest rate, exchange rate, and counterparty risks)</li> <li>Performance measures using benchmark or other yardsticks</li> </ul>	<ul style="list-style-type: none"> <li>Continuous market analysis</li> <li>Constant innovation</li> </ul>	<ul style="list-style-type: none"> <li>Ensure effective risk management is encouraged</li> <li>Monitor systemic risk through prudent bank supervision</li> <li>Set standards for transparent and reliable corporate disclosure</li> </ul>