

Guidelines for Public Debt Management

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March 21, 2001

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I. WHAT IS PUBLIC DEBT MANAGEMENT AND WHY IS IT IMPORTANT?

1. Sovereign debt management is the process of establishing and executing a strategy for managing the government's debt in order to raise the required amount of funding, achieve its risk and cost objectives, and to meet any other sovereign debt management goals the government may have set, such as developing and maintaining an efficient market for government securities.
2. In a broader macroeconomic context for public policy, governments should seek to ensure that both the level and rate of growth in their public debt is fundamentally sustainable, and can be serviced under a wide range of circumstances while meeting cost and risk objectives. Sovereign debt managers share fiscal and monetary policy advisors' concerns that public sector indebtedness remains on a sustainable path and that a credible strategy is in place to reduce excessive levels of debt. Debt managers should ensure that the fiscal authorities are aware of the impact of government financing requirements and debt levels on borrowing costs.¹ Examples of indicators that address the issue of debt sustainability include the public sector debt service ratio, and ratios of public debt to GDP and to tax revenue.
3. Poorly structured debt in terms of maturity, currency, or interest rate composition and large and unfunded contingent liabilities have been important factors in inducing or propagating economic crises in many countries throughout history. For example, irrespective of the exchange rate regime, or whether domestic or foreign currency debt is involved, crises have often arisen because of an excessive focus by governments on possible cost savings associated with large volumes of short-term or floating rate debt. This has left government budgets seriously exposed to changing financial market conditions, including changes in the country's creditworthiness, when this debt has to be rolled over. Foreign currency debt also poses particular risks, and excessive reliance on foreign currency debt can lead to exchange rate and/or monetary pressures if investors become reluctant to refinance the government's foreign-currency debt. By reducing the risk that the government's own portfolio management will become a source of instability for the private sector, prudent government debt management, along with sound policies for managing contingent liabilities, can make countries less susceptible to contagion and financial risk.
4. A government's debt portfolio is usually the largest financial portfolio in the country. It often contains complex and risky financial structures, and can generate substantial risk to the government's balance sheet and to the country's financial stability. As noted by the Financial Stability Forum's Working Group on Capital Flows, "recent experience has highlighted the need for governments to limit the build-up of liquidity exposures and other risks that make

¹ Excessive levels of debt that result in higher interest rates can have adverse effects on real output. See for example: A. Alesina, M. de Broeck, A. Prati, and G. Tabellini, "Default Risk on Government Debt in OECD Countries," in *Economic Policy: A European Forum* (October 1992), pp. 428–463.

their economies especially vulnerable to external shocks.”² Therefore, sound risk management by the public sector is also essential for risk management by other sectors of the economy “because individual entities within the private sector typically are faced with enormous problems when inadequate sovereign risk management generates vulnerability to a liquidity crisis.” Sound debt structures help governments reduce their exposure to interest rate, currency and other risks. Many governments seek to support these structures by establishing, where feasible, portfolio benchmarks related to the desired currency composition, duration, and maturity structure of the debt to guide the future composition of the portfolio.

5. Several debt market crises have highlighted the importance of sound debt management practices and the need for an efficient and sound capital market. Although government debt management policies may not have been the sole or even the main cause of these crises, the maturity structure, and interest rate and currency composition of the government’s debt portfolio, together with substantial obligations in respect of contingent liabilities have often contributed to the severity of the crisis. Even in situations where there are sound macroeconomic policy settings, risky debt management practices increase the vulnerability of the economy to economic and financial shocks. Sometimes these risks can be readily addressed by relatively straightforward measures, such as by lengthening the maturities of borrowings and paying the associated higher debt servicing costs (assuming an upward sloping yield curve), by adjusting the amount, maturity, and composition of foreign exchange reserves, and by reviewing criteria and governance arrangements in respect of contingent liabilities.

6. Risky debt structures are often the consequence of inappropriate economic policies—fiscal, monetary and exchange rate—but the feedback effects undoubtedly go in both directions. However, there are limits to what sound debt management policies can deliver. Sound debt management policies are no panacea or substitute for sound fiscal and monetary management. If macroeconomic policy settings are poor, sound sovereign debt management may not by itself prevent any crisis. Sound debt management policies reduce susceptibility to contagion and financial risk by playing a catalytic role for broader financial market development and financial deepening. Experience supports the argument, for example, that developed domestic debt markets can substitute for bank financing (and vice versa) when this source dries up, helping economies to weather financial shocks.³

² Financial Stability Forum, “Report of the Working Group on Capital Flows,” April 5, 2000, p. 2.

³ See, for example, Remarks by Chairman Alan Greenspan before the World Bank Group and the International Monetary Fund, Program of Seminars, Washington, D.C., September 27, 1999.

II. PURPOSE OF THE GUIDELINES

7. The Guidelines are designed to assist policymakers in considering reforms to strengthen the quality of their public debt management and reduce their country's vulnerability to international financial shocks. Vulnerability is often greater for smaller and emerging market countries because their economies may be less diversified, have a smaller base of domestic financial savings and less developed financial systems, and be more susceptible to financial contagion through the relative magnitudes of capital flows. As a result, the Guidelines should be considered within a broader context of the factors and forces affecting a government's liquidity more generally, and the management of its balance sheet. Governments often manage large foreign exchange reserves portfolios, their fiscal positions are frequently subject to real and monetary shocks, and they can have large exposures to contingent liabilities and to the consequences of poor balance sheet management in the private sector. However, irrespective of whether financial shocks originate within the domestic banking sector or from global financial contagion, prudent government debt management policies, along with sound macroeconomic and regulatory policies, are essential for containing the human and output costs associated with such shocks.

8. The Guidelines cover both domestic and external public debt and encompass a broad range of financial claims on the government. They seek to identify areas in which there is broad agreement on what generally constitutes sound practices in public debt management. The Guidelines endeavor to focus on principles applicable to a broad range of countries at different stages of development and with various institutional structures of national debt management. They should not be viewed as a set of binding practices or mandatory standards or codes. Nor should they suggest that a unique set of sound practices or prescriptions exists, which would apply to all countries in all situations. Building capacity in sovereign debt management can take several years and country situations and needs vary widely. These Guidelines are mainly intended to assist policymakers by disseminating sound practices adopted by member countries in debt management strategy and operations. Their implementation will vary from country to country, depending on each country's circumstances, such as its state of financial development.

9. Each country's capacity building needs in sovereign debt management are different. Their needs are shaped by the capital market constraints they face, the exchange rate regime, the quality of their macroeconomic and regulatory policies, the institutional capacity to design and implement reforms, the country's credit standing, and its objectives for public debt management. Capacity building and technical assistance therefore must be carefully tailored to meet stated policy goals, while recognizing the policy settings, institutional framework and the technology and human and financial resources that are available. The Guidelines should assist policy advisors and decision makers involved in designing debt management reforms as they raise public policy issues that are relevant for all countries. This is the case whether the public debt comprises marketable debt or debt from bilateral or multilateral official sources, although the specific measures to be taken will differ, to take into account a country's circumstances.

10. Every government faces policy choices concerning debt management objectives, its preferred risk tolerance, which part of the government balance sheet those managing debt should be responsible for, how to manage contingent liabilities, and how to establish sound governance for public debt management. On many of these issues, there is increasing convergence on what are considered prudent sovereign debt management practices that can also reduce vulnerability to contagion and financial shocks. These include: recognition of the benefits of clear objectives for debt management; weighing risks against cost considerations; the separation and coordination of debt and monetary management objectives and accountabilities; a limit on debt expansion; the need to carefully manage refinancing and market risks and the interest costs of debt burdens; and the necessity of developing a sound institutional structure and policies for reducing operational risk, including clear delegation of responsibilities and associated accountabilities among government agencies involved in debt management.

11. Debt management needs to be linked to a clear macroeconomic framework, under which governments seek to ensure that the level and rate of growth in public debt are sustainable. Public debt management problems often find their origins in the lack of attention paid by policymakers to the benefits of having a prudent debt management strategy and the costs of weak macroeconomic management. In the first case, authorities should pay greater attention to the benefits of having a prudent debt management strategy, framework, and policies that are coordinated with a sound macro policy framework. In the second, inappropriate fiscal, monetary, or exchange rate policies generate uncertainty in financial markets regarding the future returns available on local currency-denominated investments, thereby inducing investors to demand higher risk premiums. Particularly in developing and emerging markets, borrowers and lenders alike may refrain from entering into longer-term commitments, which can stifle the development of domestic financial markets, and severely hinder debt managers' efforts to protect the government from excessive rollover and foreign exchange risk. A good track record of implementing sound macropolicies can help to alleviate this uncertainty. This should be combined with building appropriate technical infrastructure—such as a central registry and payments and settlement system—to facilitate the development of domestic financial markets.

III. SUMMARY OF THE DEBT MANAGEMENT GUIDELINES

1. Debt Management Objectives and Coordination

1.1 Objectives

The main objective of public debt management is to ensure that the government's financing needs and its payment obligations are met at the lowest possible cost over the medium to long run, consistent with a prudent degree of risk.

1.2 Scope

Debt management should encompass the main financial obligations over which the central government exercises control.

1.3 Coordination with monetary and fiscal policies

Debt managers, fiscal policy advisors, and central bankers should share an understanding of the objectives of debt management, fiscal, and monetary policies given the interdependencies between their different policy instruments. Debt managers should convey to fiscal authorities their views on the costs and risks associated with government financing requirements and debt levels.

Where the level of financial development allows, there should be a separation of debt management and monetary policy objectives and accountabilities.

Debt management, fiscal, and monetary authorities should share information on the government's current and future liquidity needs.

2. Transparency and Accountability

2.1 Clarity of roles, responsibilities and objectives of financial agencies responsible for debt management

The allocation of responsibilities among the ministry of finance, the central bank, or a separate debt management agency, for debt management policy advice, and for undertaking primary debt issues, secondary market arrangements, depository facilities, and clearing and settlement arrangements for trade in government securities, should be publicly disclosed.

The objectives for debt management should be clearly defined and publicly disclosed, and the measures of cost and risk that are adopted should be explained.

2.2 Open process for formulating and reporting of debt management policies

Materially important aspects of debt management operations should be publicly disclosed.

2.3 Public availability of information on debt management policies

The public should be provided with information on the past, current, and projected budgetary activity, including its financing, and the consolidated financial position of the government.

The government should regularly publish information on the stock and composition of its debt and financial assets, including their currency, maturity, and interest rate structure.

2.4 Accountability and assurances of integrity by agencies responsible for debt management

Debt management activities should be audited annually by external auditors.

3. Institutional Framework

3.1 Governance

The legal framework should clarify the authority to borrow and to issue new debt, invest, and undertake transactions on the government's behalf.

The organizational framework for debt management should be well specified, and ensure that mandates and roles are well articulated.

3.2 Management of internal operations

Risks of government losses from inadequate operational controls should be managed according to sound business practices, including well-articulated responsibilities for staff, and clear monitoring and control policies and reporting arrangements.

Debt management activities should be supported by an accurate and comprehensive management information system with proper safeguards.

Staff involved in debt management should be subject to a code-of-conduct and conflict-of-interest guidelines regarding the management of their personal financial affairs.

Sound business recovery procedures should be in place to mitigate the risk that debt management activities might be severely disrupted by natural disasters, social unrest, or acts of terrorism.

4. Debt Management Strategy

The risks inherent in the structure of the government's debt should be carefully monitored and evaluated. These risks should be mitigated to the extent feasible by modifying the debt structure, taking into account the cost of doing so.

In order to help guide borrowing decisions and reduce the government's risk, debt managers should consider the financial and other risk characteristics of the government's cash flows.

Debt managers should carefully assess and manage the risks associated with foreign-currency and short-term or floating rate debt.

There should be cost-effective cash management policies in place to enable the authorities to meet with a high degree of certainty their financial obligations as they fall due.

5. Risk Management Framework

A framework should be developed to enable debt managers to identify and manage the trade-offs between expected cost and risk in the government debt portfolio.

To assess risk, debt managers should regularly conduct stress tests of the debt portfolio on the basis of the economic and financial shocks to which the government—and the country more generally—are potentially exposed.

5.1 Scope for active management

Debt managers who seek to manage actively the debt portfolio to profit from expectations of movements in interest rates and exchange rates, which differ from those implicit in current market prices, should be aware of the risks involved and accountable for their actions.

5.2 Contingent liabilities

Debt managers should consider the impact that contingent liabilities have on the government's financial position, including its overall liquidity, when making borrowing decisions.

6. Development and Maintenance of an Efficient Market for Government Securities

In order to minimize cost and risk over the medium to long run, debt managers should ensure that their policies and operations are consistent with the development of an efficient government securities market.

6.1 Portfolio diversification and instruments

The government should strive to achieve a broad investor base for its domestic and foreign obligations, with due regard to cost and risk, and should treat investors equitably.

6.2 Primary market

Debt management operations in the primary market should be transparent and predictable.

To the extent possible, debt issuance should use market-based mechanisms, including competitive auctions and syndications.

6.3 Secondary market

Governments and central banks should promote the development of resilient secondary markets that can function effectively under a wide range of market conditions.

The systems used to settle and clear financial market transactions involving government securities should reflect sound practices.

IV. DISCUSSION OF THE GUIDELINES

1. Debt Management Objectives and Coordination

1.1 Objectives

12. The main objective of public debt management is to ensure that the government's financing needs and its payment obligations are met at the lowest possible cost over the medium to long run, consistent with a prudent degree of risk. Prudent risk management to avoid dangerous debt structures and strategies (including monetary financing of the government's debt) is crucial, given the severe macroeconomic consequences of sovereign debt default, and the magnitude of the ensuing output losses. These costs include business and banking insolvencies as well as the diminished long-term credibility and capability of the government to mobilize domestic and foreign savings. Box 1 provides a list of the main risks encountered in sovereign debt management.

Governments should try to minimize expected debt servicing costs and the cost of holding liquid assets, subject to an acceptable level of risk, over a medium- to long-term horizon.⁴ Minimizing cost, while ignoring risk, should not be an objective. Transactions that appear to lower debt servicing costs often embody significant risks for the government and can limit its capacity to repay lenders. Developed countries, which typically have deep and liquid markets for their government's securities, often focus primarily on market risk, and, together with stress tests, may use sophisticated portfolio models for measuring this risk. In contrast, emerging market countries, which have only limited (if any) access to foreign capital markets and which also have relatively undeveloped domestic debt markets, should give higher priority to rollover risk. Where appropriate, debt management policies to promote the development of the domestic debt market should also be included as a prominent government objective. This objective is particularly relevant for countries where market constraints are such that short-term debt, floating rate debt, and foreign currency debt may, in the short-run at least, be the only viable alternatives to monetary financing.

1.2 Scope

13. Debt management should encompass the main financial obligations over which the central government exercises control. These obligations typically include both marketable debt and non-market debt, such as concessional financing obtained from bilateral and multilateral official sources. In a number of countries, the scope of debt management

⁴ In addition to their concerns as to the real costs of financial crises, governments' desire to avoid excessively risky debt structures reflects their concern over the possible effects of losses on their fiscal position and access to capital, and the fact that losses could ultimately lead to higher tax burdens and political risks.

Box 1. Risks Encountered in Sovereign Debt Management

Risk	Description
Market Risk	Refers to the risks associated with changes in market prices, such as interest rates, exchange rates, commodity prices, on the cost of the government's debt servicing. For both domestic and foreign currency debt, changes in interest rates affect debt servicing costs on new issues when fixed-rate debt is refinanced, and on floating-rate debt at the rate reset dates. Hence, short- duration debt (short-term or floating-rate) is usually considered to be more risky than long-term, fixed rate debt. (Excessive concentration in very long-term, fixed rate debt also can be risky as future financing requirements are uncertain.) Debt denominated in or indexed to foreign currencies also adds volatility to debt servicing costs as measured in domestic currency owing to exchange rate movements. Bonds with embedded put options can exacerbate market and rollover risks.
Rollover Risk	The risk that debt will have to be rolled over at an unusually high cost or, in extreme cases, cannot be rolled over at all. To the extent that rollover risk is limited to the risk that debt might have to be rolled over at higher interest rates, including changes in credit spreads, it may be considered a type of market risk. However, because the inability to roll over debt and/or exceptionally large increases in government funding costs can lead to, or exacerbate, a debt crisis and thereby cause real economic losses, in addition to the purely financial effects of higher interest rates, it is often treated separately. Managing this risk is particularly important for emerging market countries.
Liquidity Risk	There are two types of liquidity risk. One refers to the cost or penalty investors face in trying to exit a position when the number of transactors has markedly decreased or because of the lack of depth of a particular market. This risk is particularly relevant in cases where debt management includes the management of liquid assets or the use of derivatives contracts. The other form of liquidity risk, for a borrower, refers to a situation where the volume of liquid assets can diminish quickly in the face of unanticipated cash flow obligations and/or a possible difficulty in raising cash through borrowing in a short period of time.
Credit Risk	The risk of non performance by borrowers on loans or other financial assets or by a counterparty on financial contracts. This risk is particularly relevant in cases where debt management includes the management of liquid assets. It may also be relevant in the acceptance of bids in auctions of securities issued by the government as well as in relation to contingent liabilities, and in derivative contracts entered into by the debt manager.
Settlement Risk	Refers to the potential loss that the government, as a counterparty, could suffer as a result of failure to settle, for whatever reason other than default, by another counterparty.
Operational Risk	This includes a range of different types of risks, including transaction errors in the various stages of executing and recording transactions; inadequacies or failures in internal controls, or in systems and services; reputation risk; legal risk; security breaches; or natural disasters that affect business activity.

operations has broadened in recent years. Nevertheless, the public sector debt, which is included or excluded from the central government's mandate over debt management, will vary from country to country, depending on the nature of the political and institutional frameworks.⁵

14. Domestic and foreign currency borrowings are now typically coordinated. Moreover, debt management often encompasses the oversight of liquid financial assets and potential exposures due to off-balance sheet claims on the central government, including contingent liabilities such as state guarantees. In establishing and implementing a strategy for managing the central government's debt in order to achieve its cost and risk objectives and any other sovereign debt management goals, the central government should monitor and review the potential exposures that may arise from guaranteeing the debts of sub-central governments and state-owned enterprises, and, whenever possible, be aware of the overall financial position of public- and private-sector borrowers. And, the borrowing calendars of the central and sub-central government borrowers may need to be coordinated to ensure that auctions of new issues are appropriately spaced.

1.3 Coordination with monetary and fiscal policies

15. Debt managers, fiscal policy advisors, and central bankers should share an understanding of the objectives of debt management, fiscal, and monetary policies given the interdependencies between their different policy instruments. Debt managers should convey to fiscal authorities their views on the costs and risks associated with government financing requirements and debt levels. Policymakers should understand the ways in which the different policy instruments operate, their potential to reinforce one another, and how policy tensions can arise.⁶ Prudent debt management, fiscal and monetary policies can reinforce one another in helping to lower the risk premia in the structure of long-term interest rates. Monetary authorities should inform the fiscal authorities of the effects of government debt levels on the achievement of their monetary objectives. Borrowing limits and sound risk management practices can help to protect the government's balance sheet from debt servicing shocks. In some cases, conflicts between debt management and monetary policies can arise owing to the different purposes—debt management focuses on the cost/risk trade-off, while monetary policy is normally directed towards achieving price stability. For example, some central banks may prefer that the government issue inflation-indexed debt or borrow in foreign currency to bolster the credibility of monetary policy. Debt managers may believe that the market for such inflation-indexed debt has not been fully developed and that

⁵ These guidelines may also offer useful insights for other levels of government with debt management responsibilities.

⁶ For further information on coordination issues, see V. Sundararajan, Peter Dattels, and Hans J. Blommestein, eds., *Coordinating Public Debt and Monetary Management*, (Washington, D.C.: International Monetary Fund), 1997.

foreign currency debt introduces greater risk onto the government's balance sheet. Conflicts can also arise between debt managers and fiscal authorities, for example, on the cash flows inherent in a given debt structure (e.g., issuing zero-coupon debt to transfer the debt burden to future generations). For this reason, it is important that coordination take place in the context of a clear macroeconomic framework.

16. Where the level of financial development allows, there should be a separation of debt management and monetary policy objectives and accountabilities. Clarity in the roles and objectives for debt management and monetary policy minimizes potential conflicts. In countries with well-developed financial markets, borrowing programs are based on the economic and fiscal projections contained in the government budget, and monetary policy is carried out independently from debt management. This helps ensure that debt management decisions are not perceived to be influenced by inside information on interest rate decisions, and avoids perceptions of conflicts of interest in market operations. A goal of cost minimization over time for the government's debt, subject to a prudent level of risk, should not be viewed as a mandate to reduce interest rates, or to influence domestic monetary conditions. Neither should the cost/risk objective be seen as a justification for the extension of low-cost central bank credit to the government, nor should monetary policy decisions be driven by debt management considerations.

17. Debt management, fiscal, and monetary authorities should share information on the government's current and future liquidity needs. Since monetary operations are often conducted using government debt instruments and markets, the choice of monetary instruments and operating procedures can have an impact on the functioning of government debt markets, and potentially on the financial condition of dealers in these markets. By the same token, the efficient conduct of monetary policy requires a solid understanding of the government's short- and longer-term financial flows. As a result, debt management and fiscal and monetary officials often meet to discuss a wide range of policy issues. At the operational level, debt management, fiscal, and monetary authorities generally share information on the government's current and future liquidity needs. They often coordinate their market operations so as to ensure that they are not both operating in the same market segment at the same time. Nevertheless, achieving separation between debt management and monetary policy might be more difficult in countries with less-developed financial markets, since debt management operations may have correspondingly larger effects on the level of interest rates and the functioning of the local capital market. Consideration needs to be given to the sequencing of reforms to achieve this separation.

2. Transparency and Accountability⁷

18. As outlined in the *Code of Good Practices on Transparency in Monetary and Financial Policies: Declaration of Principles* (MFP Transparency Code), the case for transparency in debt management operations is based on two main premises: first, their effectiveness can be strengthened if the goals and instruments of policy are known to the public (financial markets) and if the authorities can make a credible commitment to meeting them; second, transparency can enhance good governance through greater accountability of central banks, finance ministries, and other public institutions involved in debt management.

2.1 *Clarity of roles, responsibilities and objectives of financial agencies responsible for debt management*

19. **The allocation of responsibilities among the ministry of finance, the central bank, or a separate debt management agency, for debt management policy advice and for undertaking primary debt issues, secondary market arrangements, depository facilities, and clearing and settlement arrangements for trade in government securities, should be publicly disclosed.**⁸ Transparency in the mandates and clear rules and procedures in the operations of the central bank and ministry of finance can help resolve conflicts between monetary and debt management policies and operations. Transparency and simplicity in debt management operations and in the design of debt instruments can also help issuers reduce transaction costs and meet their portfolio objectives. They may also reduce uncertainty among investors, lower their transaction costs, encourage greater investor participation, and over time help governments lower their debt servicing costs.

20. **The objectives for debt management should be clearly defined and publicly disclosed, and the measures of cost and risk that are adopted should be explained.**⁹ Some sovereign debt managers also publicly disclose their portfolio benchmarks for cost and risk, although this practice is not universal. Experience suggests that such disclosure enhances the credibility of the debt management program and helps achieve debt management goals. Complementary objectives, such as domestic financial market development, should also be publicly disclosed. Their relationship with the primary objective should be clearly explained.

⁷ This section draws upon the aspects of the *Code of Good Practices on Fiscal Transparency—Declaration on Principles* (henceforth FT Code), and the *Code of Good Practices on Transparency in Monetary and Financial Policies: Declaration of Principles* that pertain to debt management operations. Subsections in this chapter follow the section headings of the MFP Transparency Code.

⁸ See MFP Transparency Code, 1.2, 1.3, and 5.2.

⁹ See MFP Transparency Code, 1.3 and 5.1.

21. Clear debt management objectives are essential in order to reduce uncertainty as to the government's willingness to trade off cost and risk. Unclear objectives often lead to poor decisions on how to manage the existing debt and what types of debt to issue, particularly during times of market instability, resulting in a potentially risky and expensive debt portfolio for the government and adding to its vulnerability to a crisis. Lack of clarity with respect to objectives also creates uncertainty within the financial community. This can increase government debt servicing costs because investors incur costs in attempting to monitor and interpret the government's objectives and policy framework, and may require higher risk premia because of this uncertainty.

2.2 Open process for formulating and reporting of debt management policies

22. Materially important aspects of debt management operations should be publicly disclosed. The *Code of Good Practices on Fiscal Transparency—Declaration on Principles* highlights the importance and need for a clear legal and administrative framework for debt management, including mechanisms for the coordination and management of budgetary and extrabudgetary activities.

23. Regulations and procedures for the primary distribution of government securities, including the auction format and rules for participation, bidding, and allocation should be clear to all participants. Rules covering the licensing of primary dealers (if engaged) and other officially designated intermediaries in government securities, including the criteria for their choice and their rights and obligations should also be publicly disclosed.¹⁰ Regulations and procedures covering secondary market operations in government securities should be publicly disclosed, including any intervention undertaken by the central bank as agent for the government's debt management operations.¹¹

2.3 Public availability of information on debt management policies

24. The public should be provided with information on the past, current, and projected budgetary activity, including its financing, and the consolidated financial position of the government. Disclosure of information on the flow and stock of government debt (if possible on a cash and accrual basis) is important.¹² Liberalized capital markets react swiftly to new information and developments, and in the most efficient of these markets, participants react to information whether published or not. Market participants will attempt to infer information that is not disclosed, and there is probably no long-term advantage to the issuer from withholding materially important information on, for example, the estimated size and

¹⁰ See MFP Transparency Code, 6.1.3.

¹¹ See MFP Transparency Code, 1.3.

¹² See FT Code, Section II and MFP Code, Section VII.

timing of new debt issuance. Most debt managers therefore regularly publish projected domestic borrowing programs. Some adhere to set patterns of new issuance, while retaining flexibility to fix the amounts and maturities of instruments that will be auctioned until one or two weeks prior to the auction.

25. The government should regularly publish information on the stock and composition of its debt and financial assets, including their currency, maturity, and interest rate structure.¹³ The financial position of the public sector should be regularly disclosed.¹⁴ Where contingent liabilities exist (for example, through explicit deposit insurance schemes sponsored by the government), information on their cost and risk aspects should be disclosed whenever possible in the public accounts.¹⁵ It is also important that the tax treatment of public securities be clearly disclosed when they are first issued. The objectives and fiscal costs of tax preferences, if any, for government securities should also be disclosed.

26. Transparency and sound policies can be seen as complements. The *Code of Good Practices on Transparency in Monetary and Financial Policies: Declaration of Principles* recognizes, however, that there may exist circumstances under which it may be appropriate to limit the extent of such transparency.¹⁶ For example, a government may not wish to publicize its pricing strategy prior to debt repurchase operations in order to avoid having prices move against it. However, in general, such limitations would be expected to apply on relatively few occasions with respect to debt management operations.

2.4 Accountability and assurances of integrity by agencies responsible for debt management

27. Debt management activities should be audited annually by external auditors. The accountability framework for debt management can be strengthened by public disclosure of audit reviews of debt management operations.¹⁷ Audits of government financial statements should be conducted regularly and publicly disclosed on a preannounced schedule, including

¹³ See FT Code, 2.2.

¹⁴ See the IMF's *Government Finance Statistics Manual* (Second edition, Draft, December 2000) for details on how to present such information. In addition, the Inter-Agency Task Force on Finance Statistics (TFFS) is developing a framework for the presentation of external debt statistics. See *External Debt Statistics: Guide for Compilers and Users* (TFFS, March Draft 2000).

¹⁵ The disclosure of contingent liabilities is discussed further in Section 5.2.

¹⁶ See MFP Transparency Code, Introduction.

¹⁷ See MFP Transparency Code, 1.2, 1.3, Sections IV and VIII.

information on the operating expenses and revenues.¹⁸ A national audit body, like the agency responsible for auditing government operations, should provide timely reports on the financial integrity of the central government accounts. In addition, there should be regular audits of debt managers' performance, and of systems and control procedures.

3. Institutional Framework

3.1 Governance

28. The legal framework should clarify the authority to borrow and to issue new debt, invest, and undertake transactions on the government's behalf. The authority to borrow should be clearly defined in legislation.¹⁹ Sound governance practices are an important component of sovereign debt management, given the size of government debt portfolios.

29. The soundness and credibility of the financial system can be supported by assurances that the government debt portfolio is being managed prudently and efficiently. Moreover, counterparties need assurances that the sovereign debt managers have the legal authority to represent the government, and that the government stands behind any transactions its sovereign debt managers enter into. An important feature of the legal framework is the authority to issue new debt, which is normally stipulated in the form of either borrowing authority legislation with a preset limit or a debt ceiling.

30. The organizational framework for debt management should be well specified, and ensure that mandates and roles are well articulated.²⁰ Legal arrangements should be supported by delegation of appropriate authority to debt managers. Experience suggests that there is a range of institutional alternatives for locating the sovereign debt management functions across one or more agencies, including in one or more of the following: the ministry of finance, central bank, autonomous debt management agency, and central depository.²¹ Regardless of which approach is chosen, the key requirement is to ensure that the organizational framework surrounding debt management is clearly specified, there is

¹⁸ The audit process may differ depending on the institutional structure of debt management operations.

¹⁹ See also FT Code, 1.2.

²⁰ See also Section 2.1 of the Guidelines, and MFP Transparency Code, 5.2.

²¹ A few countries have privatized elements of debt management within clearly defined limits including, for example, some back-office functions and the management of the foreign currency debt stock.

coordination and sharing of information, and that the mandates of the respective players are clear.²²

31. Many debt managers file an annual debt management report, which reviews the previous year's activities, and provides a broad overview of borrowing plans for the current year based on the annual budget projections. These reports increase the accountability of the government debt managers. They also assist financial markets by disclosing the criteria used to guide the debt program, the assumptions and trade-offs underlying these criteria, and the managers' performance in meeting them.

3.2 Management of internal operations

32. Risks of government losses from inadequate operational controls should be managed according to sound business practices, including well-articulated responsibilities for staff, and clear monitoring and control policies and reporting arrangements. Operational risk, due to inadequate controls and policy breaches, can entail large losses to the government and tarnish the reputation of debt managers. Sound risk monitoring and control practices are essential to reduce operational risk.

33. Operational responsibility for debt management is generally separated into front and back offices with distinct functions and accountabilities, and separate reporting lines. The front office is typically responsible for executing transactions in financial markets, including the management of auctions and other forms of borrowing, and all other funding operations. It is important to ensure that the individual executing a market transaction and the one responsible for entering the transaction into the accounting system are different people. The back office handles the settlement of transactions and the maintenance of the financial records. In a number of cases, a separate middle or risk management office has also been established to undertake risk analysis and monitor and report on portfolio-related risks, and to assess the performance of debt managers against any strategic benchmarks. This separation helps to promote the independence of those setting and monitoring the risk management framework and assessing performance from those responsible for executing market transactions. Where debt management services are provided by the central bank (e.g., registry and auction services) on behalf of the government's debt managers, the responsibilities and accountabilities of each party and agreement on service standards can be formalized through an agency agreement between the central bank and the government debt managers.

34. Government debt management requires staff with a combination of financial market skills (such as portfolio management and risk analysis) and public policy skills. Regardless of the institutional structure, the ability to attract and retain skilled debt management staff is

²² If the central bank is charged with the primary responsibility for debt management, the clarity of, and separation between, debt management and monetary policy objectives especially needs to be maintained.

crucial for mitigating operational risk. This can be a major challenge for many countries, especially where there is a high demand for such staff in the private sector, or an overall shortage of such skills generally. Investment in training can help alleviate these problems, but where large salary differentials persist between the public and private sector for such staff, government debt managers often find it difficult to retain these skills.

35. Debt management activities should be supported by an accurate and comprehensive management information system with proper safeguards. Countries who are beginning the process of building capacity in government debt management need to give a high priority to developing accurate debt recording and reporting systems. This is required not only for producing debt data and ensuring timely payment of debt service, but also for improving the quality of budgetary reporting and the transparency of government financial accounts. The management information system should capture all relevant cash flows, and should be fully integrated into the government's accounting system. While such systems are essential for debt management and risk analysis, their introduction often poses major challenges for debt managers in terms of expense and management time. However, the costs and complexities of the system should be appropriate to the organization's needs.

36. Staff involved in debt management should be subject to a code-of-conduct and conflict-of-interest guidelines regarding the management of their personal financial affairs. This will help to allay concerns that staff's personal financial interests may undermine sound debt management practices.

37. Sound business recovery procedures should be in place to mitigate the risk that debt management activities might be severely disrupted by natural disasters, social unrest, or acts of terrorism. Given that government debt issuance is increasingly based on efficient and secure electronic book-entry systems, comprehensive business recovery procedures, including back-up systems and controls, are essential to ensure the continuing operation of the government's debt management, maintain the integrity of the ownership records, and to provide full confidence to debt holders on the safety of their investments.

4. Debt Management Strategy

38. The risks inherent in the government's debt structure should be carefully monitored and evaluated. These risks should be mitigated to the extent feasible by modifying the debt structure, taking into account the cost of doing so. Box 2 summarizes some of the pitfalls encountered in sovereign debt management. A range of policies and instruments can be engaged to help manage these risks.

39. Identifying and managing market risk involves examining the financial characteristics of the revenues and other cash flows available to the government to service its borrowings, and choosing a portfolio of liabilities which matches these characteristics as much as possible. When they are available, hedging instruments can be used to move the cost and risk profile of the debt portfolio closer to the preferred portfolio composition.

Box 2. Some Pitfalls in Debt Management

1. *Increasing the vulnerability of the government's financial position by increasing risk, even though it may lead to lower costs and a lower deficit in the short run.* Debt managers should avoid exposing their portfolios to risks of large or catastrophic losses, even with low probabilities, in an effort to capture marginal cost savings that would appear to be relatively "low risk."
 - Maturity structure. A government faces an intertemporal tradeoff between short-term and long-term costs that should be managed prudently. For example, excessive reliance on short-term or floating-rate paper to take advantage of lower short-term interest rates may leave a government vulnerable to volatile and possibly increasing debt service costs if interest rates increase, and the risk of default in the event that a government cannot roll over its debts at any cost. It could also affect the achievement of a central bank's monetary objectives.
 - Excessive unhedged foreign exchange exposures. This can take many forms, but the predominant is directly issuing excessive amounts of foreign currency denominated debt and foreign exchange indexed debt. This practice may leave governments vulnerable to volatile and possibly increasing debt service costs if their exchange rates depreciate, and the risk of default if they cannot roll over their debts.
 - Debt with embedded put options. If poorly managed, these increase uncertainty to the issuer, effectively shortening the portfolio duration, and creating greater exposure to market/rollover risk.
 - Implicit contingent liabilities, such as implicit guarantees provided to financial institutions. If poorly managed, they tend to be associated with significant moral hazard.
2. *Debt management practices that distort private vs. government decisions, as well as understate the true interest cost.*
 - Debt collateralized by shares of state-owned enterprises (SOE) or other assets. In addition to understating the underlying interest cost, they may distort decisions regarding asset management.
 - Debt collateralized by specific sources of future tax revenue. If a future stream of revenue is committed for specific debt payments, a government may be less willing to undertake changes, which affect this revenue, even if the changes would improve the tax system.
 - Tax-exempt or reduced tax debt. This practice is used to encourage the placement of government debt. The impact on the deficit is ambiguous, since it will depend upon the taxation of competing assets and whether the after-tax rate of return on taxable and tax-exempt government paper are equalized.
3. *Misreporting of contingent or guaranteed debt liabilities.* This may understate the actual level of the government's liabilities.
 - Inadequate coordination or procedures with regard to borrowings by lower levels of government, which may be guaranteed by the central government, or by state-owned enterprises.
 - Repeated debt forgiveness for lower levels of government or for state-owned enterprises.
 - Guaranteeing loans, which have a high probability of being called (without appropriate budgetary provisions).

Box 2. Some Pitfalls in Debt Management (Continued)

4. *Use of non-market financing channels.* In some cases the practice can be unambiguously distortionary.
 - Special arrangements with the central bank for concessional credit, including zero/low interest overdrafts or special treasury bills.
 - Forced borrowing from suppliers either through expenditure arrears or through the issuance of promissory notes, and tied borrowing arrangements. These practices tend to raise the price of government expenditures.
 - Creating a captive market for government securities. For example, in some countries the government pension plan is required to buy government securities. In other cases, banks are required to acquire government debt against a certain percentage of their deposits. While some forms of liquid asset ratios can be a useful prudential tool for liquidity management, they can have distortionary effects on debt servicing costs, as well as on financial market development.
5. *Improper oversight and/or recording of debt contracting and payment, and/or of debt holders.* Government control over the tax base and/or the supply of outstanding debt is reduced.
 - Failing to record implicit interest on zero-interest long-term debt. While helping the cash position of the government, if the implicit interest is not recorded, the true deficit is understated.
 - Too broad an authority to incur debt. This can be due to the absence of parliamentary reporting requirements on debt incurred, or the absence of a borrowing limit or debt ceiling. However, the authority must ensure that existing debt service obligations are met.
 - Inadequate controls regarding the amount of debt outstanding. In some countries a breakdown in internal operations and poor documentation led to more debt being issued than had been officially authorized.
 - Onerous legal requirements with respect to certain forms of borrowing. In some countries, more onerous legal requirements with respect to long maturity borrowings (relative to short maturity borrowings) have led to disproportionate reliance on short-term borrowings, which compounds rollover risk.

40. Some emerging market governments would be well served to accept higher liquidity premia to keep rollover risks under control, since concentrating the debt in benchmark issues at key points along the yield curve may increase rollover risk. On the other hand, reopening previously issued securities to build benchmark issues can enhance market liquidity, thereby reducing the liquidity risk premia in the yields on government securities and lowering government debt service costs. Governments seeking to build benchmark issues often hold liquid financial assets, spread the maturity profile of the debt portfolio across the yield curve, and use domestic debt buybacks, conversions or swaps of older issues with new issues to manage the associated rollover risks.

41. Some debt managers also have treasury management responsibilities.²³ In countries where debt managers are also responsible for managing liquid assets, debt managers have adopted a multi-pronged approach to the management of credit risk inherent in their investments in liquid financial assets, and financial derivatives transactions.²⁴ In countries where credit ratings are widely available, debt managers should limit investments to those that have credit ratings from independent credit rating agencies that meet a preset minimum requirement. All governments, however, should set exposure limits for individual counterparties that take account of the government's actual and contingent consolidated financial exposures to that counterparty arising from debt and foreign exchange reserves management operations. Credit risk can also be managed by holding a diversified portfolio across a number of acceptable financial counterparties and also through collateral agreements. Settlement risk is controlled by having clearly documented settlement procedures and responsibilities, and often placing limits on the size of payments flowing through any one settlement bank.

42. In order to help guide borrowing decisions and reduce the government's risk, debt managers should consider the financial and other risk characteristics of the government's cash flows. Rather than simply examining the debt structure in isolation, several governments have found it valuable to consider debt management within a broader framework of the government's balance sheet and the nature of its revenues and cash flows. Irrespective of whether governments publish a balance sheet, conceptually all governments have such a balance sheet, and consideration of the financial and other risks of the government's assets can provide the debt manager with important insights for managing the risks of the government's debt portfolio. For example, a conceptual analysis of the government's balance sheet may provide debt managers with useful insights about the extent to which the currency structure of the debt is consistent with the revenues and cash flows available to the government to service that debt. In most countries, these mainly comprise tax revenues, which are usually denominated in local currency. In this case, the government's balance sheet risk would be reduced by issuing debt primarily in long-term, fixed rate, domestic currency securities. For countries without well-developed domestic debt markets, this may not be feasible, and governments are often faced with the choice between issuing short-term or indexed domestic debt and foreign currency debt. Issues such as crowding out of private sector borrowers and the difficulties of issuing domestic currency debt in highly

²³ In some countries debt managers also have responsibility for the management of some foreign exchange reserve assets.

²⁴ Financial derivatives most commonly used by debt managers include interest rate swaps and cross-currency swaps. Interest rate swaps allow debt managers to adjust the debt portfolio's exposure to interest rates; for example, by synthetically converting a fixed-rate obligation into a floating-rate one. Similarly, a cross-currency swap can be used to synthetically change the currency exposure of a debt obligation. In addition, some countries have issued debt with embedded call or put options.

dollarized economies should also be considered. But the financial analysis of the government's revenues and cash flows provides a sound basis for measuring the costs and risks of the feasible strategies for managing the government's debt portfolio. The asset and liability management approach is summarized in Box 3.

43. Some countries have extended this approach to include other government assets and liabilities. For example, in some countries where the foreign exchange reserves are funded by foreign currency borrowings, debt managers have reduced the government's balance sheet risk by ensuring that the currency composition of the debt that backs the reserves, after taking account of derivatives and other hedging transactions, reflects the currency composition of the reserves. However, other countries have not adopted this practice because of considerations relating to exchange rate objectives and the institutional framework, including intervention and issues related to the role and independence of the central bank.

44. Debt managers should carefully assess and manage the risks associated with foreign-currency and short-term or floating rate debt. Debt management strategies that include an over reliance on foreign currency or foreign currency-indexed debt and short-term or floating rate debt are very risky. For example, while foreign currency debt may appear, ex ante, to be less expensive than domestic currency debt of the same maturity (given that the latter may include higher currency risk and liquidity premia), it could prove to be costly in volatile capital markets or if the exchange rate depreciates. Debt managers should also be aware of the fact that the choice of exchange rate regime can affect the links between debt management and monetary policy. For example, foreign currency debt may appear to be cheaper in a fixed exchange rate regime because the regime caps exchange rate volatility. However, such debt can prove to be very risky if the exchange rate regime becomes untenable.

45. Short-term or floating rate debt (whether domestic or foreign currency-denominated), which may appear, ex ante, to be less expensive over the long run in a positively-sloped yield curve environment, can create substantial rollover risk for the government. It may also constrain the central bank from raising interest rates to address inflation or support the exchange rate because of concerns about the short-term impact on the government's financial position. However, such actions might be appropriate from the viewpoint of macroeconomic management and, by lowering risk premiums, may help to achieve lower interest rates in the longer run. Macro-vulnerabilities could be exacerbated if there is a sudden shift in market sentiment as to the government's ability to repay, or when contagion effects from other countries lead to markedly higher interest rates. Many emerging market governments have too much short-term and floating-rate debt. However, over reliance on longer-term fixed rate financing also carries risks if, in some circumstances, it tempts governments to deflate the value of such debt in real terms by initiating surprise inflation. Any such concerns would be reflected in current and future borrowing costs. Also, unexpected disinflation would increase the ex-post debt-servicing burden in real terms. This could create strains in countries, which because of an already heavy debt burden, have to pay a higher risk premium.

Box 3. Asset and Liability Management

Some governments are seeking to learn from companies that have successfully managed their core business and financial risks. Financial intermediaries, for example, seek to manage their business and financial risks by matching the financial characteristics of their liabilities to their assets (off- as well as on-balance sheet), given their core business objectives. This approach is known as asset and liability management (ALM). For example, a life insurance company is in the business of selling life insurance policies, which have a relatively stable expected long-term payment structure as determined by actuarial tables of expected mortality. To minimize its financial risk, a life insurance company will invest the proceeds of its policy sales in long-term assets to match the expected payout on its policies.

In some ways a government resembles a company. It receives revenues from taxpayers and other sources, and uses them to pay operating expenses, make transfer payments, purchase foreign exchange, invest in public infrastructure and state-owned enterprises, and meet debt-servicing costs. A government may also make loans and provide guarantees, both explicit and implicit. These various government operations may be undertaken to fulfill a broad range of macroeconomic, regulatory, national defense, and social policy objectives. However, in the process a government incurs financial and credit risks, which can be managed by considering the types of risks associated with both its assets and liabilities.

There are also important differences between the role of the government and that of private companies. While some governments have attempted to produce a balance sheet quantifying the value of their assets and liabilities, and more governments may attempt this in the future, this is not essential for the ALM approach. Instead, the objective of the ALM approach is to consider the various types of assets and obligations the government manages and explore whether the financial characteristics associated with those assets can provide insights for managing the cost and risk of the government's liabilities. This analysis involves examining the financial characteristics of the asset cash flows, and selecting, to the extent possible, liabilities with matching characteristics in order to help smooth the budgetary impact of shocks on debt servicing costs. If full matching is not possible, or is too costly, the analysis of cash flows also provides a basis for measuring the risks of the liability portfolio and measuring cost/risk tradeoffs.

Using a conceptual ALM framework for the debt management problem can be a useful approach for several reasons. At a minimum, it grounds the cost/risk analysis of the government's debt portfolio into an analysis of the government's revenues which will be used to service that debt, which, in most cases are denominated by the government's tax revenues. It enables the government debt managers to consider the other types of assets and liability portfolios the government manages, besides its tax revenues and direct debt portfolio. Assessing the main risks around these portfolios can help a government design a comprehensive strategy to help reduce the overall risk in its balance sheet. The ALM approach also provides a useful framework for considering governance arrangements for managing the government's balance sheet. This could, for example, involve deciding whether the government should maintain an ownership interest in producing particular goods and services, and the best organizational structure for managing the assets it wishes to retain.

The ALM approach to managing the government's exposure to financial risks is discussed in more detail in the forthcoming World Bank publication *Sound Practice in Sovereign Debt Management*.

46. If a country lacks a well-developed market for domestic currency debt, a government may be unable to issue long-term, fixed-rate domestic currency debt at a reasonable cost, and consequently must choose between risky short-term or floating rate domestic currency debt and longer-term, but also risky, foreign currency debt. Even so, given the potential for

sizeable economic losses if a government cannot roll over its debt, rollover risk should be given particular emphasis, and this risk can be reduced by lengthening the maturity of new debt issues. Options to lengthen maturities include issuing floating-rate debt, foreign currency or foreign currency-indexed debt and inflation indexed debt.²⁵ Over the medium-term, a strategy for developing the domestic currency debt market can relieve this constraint and permit the issuance of a less risky debt structure, and this should be reflected in the overall debt management strategy. In this context, gradual increases in the maturity of new fixed rate domestic currency debt issues may raise cost in the short run, but they reduce rollover risk and often constitute important steps in developing domestic debt markets. However, debt structures which entail extremely “lumpy” cash flows should, to the extent possible, be avoided.

47. There should be cost-effective cash management policies in place to enable the authorities to meet with a high degree of certainty their financial obligations as they fall due. The need for cost-effective cash management recognizes that the window of opportunity to issue new securities does not necessarily match the timing of planned expenditures. In particular, for governments lacking secure access to capital markets, liquid financial assets and contingent credit lines can provide flexibility in debt and cash management operations in the event of temporary financial market disturbances. They enable governments to honor their obligations, and provide flexibility to absorb shocks where access to borrowing in capital markets is temporarily curtailed or very costly. However, liquid assets are a more secure source of funds than unconditional, contingent credit lines, since financial institutions called upon to provide funds under these lines may attempt to prevent their exposures from expanding by withdrawing other lines from the government. On the other hand, some governments that do have secure access to capital markets prefer to minimize their holdings of liquid financial assets and instead rely on short-term borrowings and overdraft facilities to manage day-to-day fluctuations in their revenues and cash flows. Sound cash management needs to be supported by efficient infrastructure for payments and settlements, which are often based on dematerialized securities and a centralized, book-entry register.

48. Sound cash management by its nature combines elements of debt management and monetary operations. Particularly in some developing countries where it is not given a high priority, poor or inadequate cash management practices have tended to hamper efficient debt management operations and the conduct of monetary policy.²⁶ Notwithstanding the desirability for a clear separation of debt management and monetary policy objectives and accountabilities, the search for liquidity creates a challenge for cash managers that might be more easily dealt with if debt and cash management functions are integrated in the same

²⁵ While rollover risk can be reduced through such longer maturity instruments, the short *duration* of floating rate and indexed debt still exposes the issuer to potential variability in debt service costs.

²⁶ Payment arrears are one common example of poor cash management—see Box 2.

institution or work in close collaboration.²⁷ Where cash and debt management functions are separately managed, for example by the Central Bank and Treasury or Ministry of Finance, respectively, close coordination and information flows, in both directions, are of paramount importance to avoid short-run inconsistencies between debt and monetary operations. A clear delineation of institutional responsibilities, supported by a formal service agreement between the central bank, Treasury and debt management officials, as appropriate, can further promote sound cash management practices.

49. Appropriate policies related to official foreign exchange reserves can also play a valuable role in increasing a government's room for maneuver in meeting its financial obligations in the face of economic and financial shocks. Box 4 summarizes some macroeconomic indicators that can be used as a starting point for assessing a country's external vulnerability.²⁸ More broadly, the level of foreign exchange reserves should be set in accordance with the government's access to capital markets, the exchange rate regime, the country's economic fundamentals and its vulnerability to economic and financial shocks, the cost of carrying reserves, and the amount of short-term foreign currency debt outstanding. Governments lacking secure access to international capital markets could consider holding reserves that bear an appropriate relationship to their country's short-term external debt, regardless of whether that debt is held by residents or nonresidents. In addition, there are some indicators specific to the government's debt situation that governments and debt managers need to consider. Ratios of debt to GDP and to tax revenue, for example, would seem to be very relevant for public debt management, as would indicators such as the debt service ratio, the average interest rate, various maturity indicators, and indicators of the composition of the debt.

5. Risk Management Framework

50. **A framework should be developed to enable debt managers to identify and manage the trade-offs between expected cost and risk in the government debt portfolio.** The cost of government debt includes two components: (1) the financial cost, which typically is considered to be the cost of servicing the debt over the medium- to long-run (and may be measured in terms of its impact on the government's fiscal position), and (2) the potential cost of real economic losses that may result from a financial crisis if a government has a particular strategy for managing the portfolio, debt servicing costs can be projected forward over the medium- to long-term, based on assumptions of future interest and exchange rates and future borrowing needs. To minimize bias in choosing among different strategies, some

²⁷ See Guideline 1.3.

²⁸ Additional information on the motivations for holding foreign exchange reserves and factors influencing the adequacy of reserves under different exchange rate regimes can be found in "Debt- and Reserve-Related Indicators of External Vulnerability" (SM/00/65, March 23, 2000)

Box 4. Overview of Indicators of External Vulnerability

Indicators of Reserve Adequacy	Description
Ratio of Reserves to Short-Term External Debt	Single most important indicator of reserve adequacy in countries with significant but uncertain access to capital markets. Should be based on measure of reserves consistent with the <i>Balance of Payments Manual, Fifth Edition</i> and operational guidelines for <i>Special Data Dissemination Standard</i> reserves template, and a comprehensive measure of short-term debt of the public and private sectors on a remaining maturity basis.
Ratio of Reserves to Imports	Useful measure for reserve needs for countries with limited access to capital markets; effectively scales the level of reserves to the size and degree of openness of the economy.
Ratio of Reserves to Broad Money	Measure of the potential impact of a loss of confidence in the domestic currency, leading to capital flight by residents. Particularly useful if the banking sector is weak and/or credibility of the exchange rate regime remains to be established. There are, however, other potential sources of capital flight as well.
Debt-Related Indicators	Debt-related indicators should generally be used in conjunction with medium-term scenarios, which permit the analysis of debt sustainability over time, and under a variety of alternative assumptions.
Ratio of External Debt to Exports	Useful indicator of trend in debt that is closely related to the repayment capacity of the country.
Ratio of External Debt to GDP	Useful indicator of relating debt to resource base (reflecting the potential of shifting production to exports or import substitutes so as to enhance repayment capacity).
Average Interest Rate on External Debt	Useful indicator of borrowing terms. In conjunction with debt/GDP and debt/export ratios and growth outlook, a key indicator for assessing debt sustainability.
Average Maturity	Useful for homogeneous categories such as nonconcessional public sector debt, to track shortening of maturities or efforts to limit future vulnerabilities.
Share of Foreign Currency External Debt in Total External Debt	Useful indicator of the impact of exchange rate changes on debt (balance sheet effect), especially in conjunction with information on derivatives that transform the effective currency composition.

Source: “Debt- and Reserve-Related Indicators of External Vulnerability” (SM/00/65), IMF, 2000.

governments use “market neutral” assumptions of future interest and exchange rates; e.g., based on market measures of forward rates, or on simple assumptions that rates will remain unchanged, etc. The expected cost can be evaluated both in terms of the projected financial impact on the government’s budget or other measure of its fiscal position, as well as for possible real costs if the projected debt service is potentially unsustainable in terms of its impact on future tax rates or government programs, or if there is a potential for default.

51. Market risk is then measured in terms of potential increases in debt servicing costs from changes in interest or exchange rates relative to the expected costs. The potential real economic losses that may result from such increases in costs or if the government cannot roll over its debt should also be considered. Sovereign debt managers typically manage several other types of risk, as summarized in Box 1. An important role of the debt manager is to identify these risks, assess to the extent possible their magnitude, and develop a preferred strategy for managing the trade-off between expected cost and risk. Following government approval, the debt manager also is normally responsible for the implementation of the portfolio management and risk management policies. To carry out these responsibilities, debt managers should have access to a range of financial and macroeconomic projections. Where available, debt managers should also have access to an accounting of official assets and liabilities, on a cash or accrual basis. They also require complete information on the schedule of future coupon and principal payments and other characteristics of the government’s debt obligations, together with budget projections of future borrowing requirements.

52. To assess risk, debt managers should regularly conduct stress tests of the debt portfolio on the basis of the economic and financial shocks to which the government—and the country more generally—are potentially exposed. This assessment is often conducted using financial models ranging from simple scenario-based models, to more complex models involving highly sophisticated statistical and simulation techniques.²⁹ When constructing such assessments, debt managers need to factor in the risk that the government will not be able to roll over its debt and be forced to default, which has costs that are broader than just to the government’s budget. Moreover, debt managers should consider the interactions between the government’s financial situation and those of the financial and non-financial sectors in times of stress in order to ensure that the government’s debt management activities do not exacerbate risks in the private sector.³⁰ In general, models used should enable government debt managers to undertake the following types of risk analysis:

²⁹ Complex simulation models should be used with caution. Data constraints may significantly impair the usefulness of these models, and the results obtained may be strongly model-dependent and sensitive to the parameters used. For example, some parameters may behave differently in extreme situations or be influenced by policy responses.

³⁰ Of course, governments should also take corrective measures, such as eliminating policy biases that may encourage excessive risk-taking by the private sector.

- Project expected future debt servicing costs over a medium- to long-term horizon based on assumptions regarding factors affecting debt-servicing capability, such as: new financing requirements; the maturity profile of the debt stock; interest rate and currency characteristics of new debt; assumptions for future interest rates and exchange rates and the behavior of relevant non-financial variables (e.g., commodity prices for some countries);
- Generate a “debt profile,” consisting of key risk indicators of the existing and projected debt portfolio over the projected horizon;³¹
- Calculate the risk of future debt servicing costs in both financial and real terms by summarizing the results of stress tests that are formulated on the basis of the economic and financial shocks to which the government and the country more generally are potentially exposed. Risks are typically measured as the potential increase in debt servicing costs under the risk scenarios relative to the expected cost; and
- Summarize the costs and risks of alternative strategies for managing the government’s debt portfolio as a basis for making informed decisions on future financing alternatives.

53. The appropriate strategy depends on the government’s tolerance for risk. The degree of risk a government is willing to take may evolve over time depending on the size of the government debt portfolio, and the government’s vulnerability to economic and financial shocks. In general, the larger the debt portfolio and the vulnerability of the country to economic shocks, the larger the potential risk of loss from financial crisis or government default, and the greater the emphasis should be on reducing risks rather than costs. Such strategies include selecting maturities, currencies and interest rate terms to lower risk, as well as fiscal authorities placing more stringent limits on debt issuance. The latter approach may be the only option available to countries with limited access to market-based debt instruments, such as those that rely primarily on concessional financing from bilateral or multilateral creditors.

54. Debt managers in well-developed financial markets typically follow one of two courses: periodically determine a desired debt structure to guide new debt issuance for the subsequent period, or set strategic benchmarks to guide the day-to-day management of the government’s debt portfolio. Such portfolio benchmarks typically are expressed as numerical targets for key portfolio risk indicators, such as the share of short-term to long-term debt, and the desired currency composition and interest rate duration of the debt. The key distinction

³¹ A typical profile will include such indicators as the share of short-term to long-term debt, the share of foreign currency to domestic debt, the currency composition of the foreign currency debt, the average maturity of the debt, and the profile of maturing debts.

between these two approaches is the extent to which debt managers operate in financial markets on a regular basis to adhere to the “benchmark.” However, the use of a strategic benchmark may be less applicable for countries with less-developed markets for their debt, since a lack of market liquidity may limit their opportunities to issue debt with the desired characteristics on a regular basis. Even so, many emerging market countries have found it useful to establish somewhat less stringent “guidelines” for new debt in terms of the desired maturities, interest rate structure, and currency composition. These guidelines often incorporate the government’s strategy for developing the domestic debt market.

55. For those governments that frequently adjust their debt stock, strategic portfolio benchmarks can be powerful management tools because they represent the portfolio structure that the government would prefer to have, based on its preferences with respect to expected cost and risk. As such, they can help guide sovereign debt managers in their portfolio and risk management decisions, for example, by requiring that debt management decisions move the actual portfolio closer to the strategic benchmark portfolio.³² Governments should strive to ensure that the design of their strategic portfolio benchmarks is supported by a risk management framework that ensures the risks are well specified and managed, and that the overall risk of their debt portfolios is within acceptable tolerances. Where markets are well developed, debt managers should try to ensure that their desired debt structures or strategic benchmarks are clear and consistent with the objectives for debt management, and publicly disclosed and explained.

5.1 Scope for active management

56. Debt managers who seek to manage actively the debt portfolio to profit from expectations of movements in interest rates and exchange rates, which differ from those implicit in current market prices, should be aware of the risks involved and accountable for their actions. These risks include possible financial losses, as well as conflicts of interest, and adverse signaling with respect to monetary and fiscal policies. In order to be able to lower borrowing costs without increasing risk by taking market views, debt managers require information or judgment that is superior to that of other market participants (and must also be able to transact in an efficient manner).

57. Debt managers may have better information on financial flows in the domestic market and the financial condition of market participants due to the government’s privileged role as supervisor or regulator of the financial system. However, most governments consider it unwise and unethical to try and capitalize on such inside information, especially in the

³² However, debt managers should be mindful of the transaction costs associated with continuously rebalancing the debt portfolio to mirror the benchmark, as well as the costs associated with making a major shift in the structure of the portfolio over a short period of time. Common practice is therefore to express the benchmark characteristics as a range for currency composition, interest rate duration, and level of refinancing.

domestic market. In particular, debt managers and policymakers should not engage in tactical trading on the basis of inside information with respect to future fiscal or monetary policy actions. This is because the government is usually the dominant issuer of debt in the domestic market, and it risks being perceived as manipulating the market, if it buys and sells its own securities or uses derivatives for the purpose of trying to generate additional income. Moreover, if the debt managers adopt interest rate or currency positions, their actions could also be interpreted as signaling a government view on the desired future direction of interest rates or the exchange rate, thereby making the central bank's task more difficult.

58. In foreign capital markets, debt managers generally have little or no information on the nature of financial flows beyond that available in the market generally. Even so, some governments actively manage their foreign currency debt in the hope of generating risk-adjusted returns, or to enable their portfolio managers to accumulate greater market knowledge, in an attempt to generate cost savings on major borrowings. Many governments do not consider it appropriate to undertake such tactical trading. In cases where such trading is permitted, it should be conducted under clearly defined portfolio guidelines with respect to position and loss limits, compliance procedures, and performance reporting. In countries where government debt managers undertake tactical trading, it normally comprises only a small fraction of a government's portfolio management activities.

5.2 Contingent liabilities

59. Debt managers should consider the impact that contingent liabilities have on the government's financial position, including its overall liquidity, when making borrowing decisions. Contingent liabilities represent potential financial claims against the government which have not yet materialized, but which could trigger a firm financial obligation or liability under certain circumstances. They may be explicit (such as government guarantees on foreign exchange borrowings by certain domestic borrowers, government insurance schemes with respect to crop failures or natural disasters, and instruments such as put options on government securities) or implicit, where the government does not have a contractual obligation to provide assistance, but (ex post) decides to do so because it believes the cost of not intervening is unacceptable. (Examples could include possible bailouts of the financial sector, state-owned enterprises, or sub-central governments). Unlike most government financial obligations, however, contingent liabilities have a degree of uncertainty—they may be exercised only if certain events occur, and the size of the fiscal payout depends on the structure of the undertaking. Experience indicates that these contingent liabilities can be very large, particularly when they involve recapitalization of the banking system by the government or government obligations that arise from poorly designed programs for privatization of government assets. If structured without appropriate incentives or controls, contingent liabilities are often associated with moral hazard for the government, since making allowances ahead of time can increase the probability of these liabilities being realized. As a result, governments need to balance the benefits of disclosure with the moral hazard consequences that may arise with respect to contingent liabilities.

60. Governments should monitor the risk exposures they are entering into through their explicit contingent liabilities, and ensure that they are well informed of the associated risks of such liabilities. They should also be conscious of the conditions that could trigger implicit contingent liabilities, such as policy distortions which can lead to poor asset and liability management practices in the banking sector. Some governments have found it useful to centralize this monitoring function. In all cases, the debt managers should be aware of the explicit contingent liabilities that the government has entered into.

61. The fiscal authorities should also consider making budget allowances for expected losses from explicit contingent liabilities. In cases where it is not possible to derive reliable cost estimates, the available information on the cost and risk of contingent liabilities or a liquidity drain can be summarized in the notes to the budget tables or the government's financial accounts, since contingent liabilities may represent a significant balance sheet risk for a government.

62. Governments can also do a great deal to reduce the risks associated with contingent liabilities by strengthening prudential supervision and regulation, introducing appropriate deposit insurance schemes, undertaking sound governance reforms of public sector enterprises, and improving the quality of their macroeconomic management and regulatory policies.

6. Development and Maintenance of an Efficient Market for Government Securities

63. In order to minimize cost and risk over the medium to long run, debt managers should ensure that their policies and operations are consistent with the development of an efficient government securities market. An efficient market for securities provides the government with a mechanism to finance its expenditures in a way that alleviates the need to rely on the central bank to finance budget deficits. Moreover, by promoting the development of a deep and liquid market for its securities, debt managers, in tandem with central banks and supervisors and regulators of financial institutions, and market participants (see Box 5) can achieve lower debt service costs over the medium- to long-term as liquidity premia embedded in the yields on government debt wane.³³ In addition, where they have low credit risks, the yields on government securities serve as a benchmark in pricing other financial assets, thereby serving as a catalyst for the development of deep and liquid money and bond markets generally. This helps to buffer the effects of domestic and international shocks on

³³ Some governments are finding that declining government financing requirements have led to reduced liquidity in their government debt markets. This has triggered a debate regarding the benefits of rapidly paying down the debt stock. Partly as an alternative to extensive debt buybacks, a few governments are continuing to issue some debt to build or maintain liquid financial markets. Similarly, the absence of sustained fiscal deficits in some countries has prevented the natural development of a government debt market. Some of them have nevertheless decided to issue debt to stimulate the development of a domestic fixed-income market.

Box 5. Relevant Conditions for Developing an Efficient Government Securities Market

In most countries, the development of a government securities market has been pivotal in helping to create a liquid and efficient domestic debt market. Although countries have adopted different approaches in the timing and sequencing of measures to develop these markets, the main elements of many of these programs are summarized below. One important prerequisite for building investor confidence is a track record of a sound macroeconomic environment. This includes implementing appropriate fiscal and monetary policies, coupled with a viable balance of payments position and exchange rate regime. In addition, developing a domestic securities market involves addressing, even in the nascent stages, securities market regulation, market infrastructure, the demand for securities, and the supply of securities.

Early steps in developing *securities market regulation* to support the issuance and trading of government securities include:

- establishing a legal framework for securities issuance;
- developing a regulatory environment to foster market development and enable sound supervisory practices to be enforced; and
- introducing appropriate accounting, auditing, and disclosure practices for financial sector reporting.

Market infrastructure to help build market liquidity and reduce systemic risk can be developed over time by:

- introducing trading arrangements suitable for the size of the market, which include efficient and safe custody, clearing, and settlement procedures;
- encouraging the development of a system of market-makers to enable buyers and sellers to transact efficiently at prices reflecting fair value;
- removing any tax or other regulatory impediments, which may hamper trading in government securities;
- fostering, at a later stage, the scope for other money market and risk management instruments, such as repos and interest rate futures and swaps; and
- Central bank operations to manage market liquidity.

Strengthening *the demand* for government securities involves acting on a broad front to build the potential investor base through measures such as:

- removing regulatory and fiscal distortions, which inhibit the development of institutional investors (e.g., pension reform);
- eliminating below-market-rate funding through captive investor sources; and
- implementing appropriate rules and regulatory regime affecting participation by foreign investors in the domestic market.

In developing *the supply* of government securities the key elements for establishing an efficient primary market include:

- establishing clear objectives for security issuance and debt management;
- developing basic projections of the government's liquidity needs;
- creating safe and efficient channels for the distribution of securities (e.g., auctions, syndication, possible use of primary dealers) targeted to investor needs and thereby lowering transaction costs;
- progressively extending the maturity of government securities;
- consolidating the number of debt issues and creating standardized securities with conventional maturities with a view to eventually provide market benchmarks; and
- moving towards a predictable and transparent debt management operation, e.g., with pre-announced issuance calendars, and greater disclosure of funding needs and auction outcomes.

The development of government securities markets is discussed in more detail in *Handbook on Development of Government Bond Markets*, World Bank in cooperation with the International Monetary Fund (forthcoming).

the economy by providing borrowers with readily accessible domestic financing, and it is especially valuable in times of global financial instability, when lower quality credits may find it particularly difficult to obtain foreign funding. Governments should exercise particular care in borrowing in external markets.

64. Experience suggests there is no single optimal approach for developing an efficient market for government securities. OECD countries, for example, have established government securities markets using a wide range of approaches involving different sequencing of reforms and speed of deregulation. But, experiences in developing these markets in many countries demonstrate the importance of having a sound macroeconomic policy framework, well-designed reforms to adopt and develop market-based monetary policy instruments, and careful sequencing in removing regulations around the capital account.

6.1 Portfolio diversification and instruments

65. The government should strive to achieve a broad investor base for its domestic and foreign obligations, with due regard to cost and risk, and should treat investors equitably. Debt issuers can support this objective by diversifying the stock of debt across the yield curve or through a range of market instruments. Such actions could be particularly beneficial to emerging market countries seeking to minimize rollover risk. At the same time, issuers need to be mindful of the cost of doing this and the market distortions that might arise, since investors may favor particular segments of the yield curve, or specific types of instruments. And, in less-developed markets, the nominal yield curve may extend only to relatively short-term securities. Attempting to extend the yield curve quickly beyond that point may be impractical or infeasible. This has led some emerging market countries to issue large amounts of longer-term inflation-indexed debt and floating-rate debt, since such debt may be attractive to investors in countries where government indebtedness is high, and the credibility of the monetary authorities is low.

66. As investors seek to diversify their risks through buying a range of securities and investments, debt managers should attempt to diversify the risks in their portfolios of liabilities by issuing securities at different points along the yield curve (different maturity dates), issuing securities at different points during the year (rather than issuing a large amount of securities in a single offering), offering securities with different cash flow characteristics (for example, fixed coupon or floating-rate, nominal or indexed) and securities targeted at specific investors (for example, wholesale or retail investors, or in certain circumstances, domestic and foreign investors).³⁴ In so doing, debt managers should strive to treat investors equitably and, where possible, develop the overall liquidity of their debt instruments. This would increase their attractiveness to investors, and reduce the liquidity

³⁴ Some countries are considering attaching renegotiation or collective action clauses to their debt instruments, such as majority voting rules.

premium that investors demand, as well as reduce the risk that the pricing of government securities could be significantly affected by the actions of a small number of market participants. A well-balanced approach aimed at broadening the investor base and spreading rollover risks, while at the same time recognizing the benefits of building liquid benchmark issues, should contribute to the objective of lowering debt costs over the long run.

67. Offering a range of debt management instruments with standardized features in the domestic market helps make financial markets more complete, which enables all participants to better hedge their financial commitments and exposures, thus contributing to reduced risks premia and vulnerability in the economy more generally.

68. Where appropriate, issuing instruments with embedded options (such as savings bonds, which are redeemable by the bondholder on demand) may also contribute to instrument diversification. However, even where valid reasons exist for issuing such securities, debt managers should exercise considerable caution to ensure that the risks inherent in embedded options and other derivative instruments are integrated in the risk management framework, and that the instruments and risks are well understood by the issuer and other market participants.

6.2 Primary market

69. Debt management operations in the primary market should be transparent and predictable. Regardless of the mechanism used to raise funds, experience suggests that borrowing costs are typically minimized and the market functions most efficiently when government operations are transparent—for example, by publishing borrowing plans well in advance and acting consistently when issuing new securities—and when the issuer creates a level playing field for investors. The terms and conditions of new issues should be publicly disclosed and clearly understood by investors. The rules governing new issues should treat investors equitably. And, debt managers should maintain an ongoing dialogue with market participants and monitor market developments so that they are in a position to react quickly when circumstances require.

70. To the extent possible, debt issuance should use market-based mechanisms, including competitive auctions and syndications. In the primary market for government securities, best practice suggests that governments typically strive, where feasible, to use market-based mechanisms to raise funds. For domestic currency borrowings, this typically involves auctions of government securities, although syndications have been successfully used by borrowers that do not have a need to raise funds on a regular basis, or are introducing a new instrument to the market.³⁵ Governments should rarely cancel auctions because of

³⁵ Some governments have found that introducing a network of market makers can be a useful mechanism for distributing securities and fostering deep and liquid markets. Some countries have used primary dealers for this role, while others have sought to encourage a more open financial marketplace. Where primary dealers operate, the incentives and

(continued)

market conditions, or cut off the amounts awarded below the preannounced tender amount in order to achieve short-run debt service cost objectives. Experience has shown that such practices affect credibility and damage the integrity of the auction process, causing risk premia to rise, hampering market development, and causing long-run debt service costs to increase.

6.3 Secondary market

71. Governments and central banks should promote the development of resilient secondary markets that can function effectively under a wide range of market conditions. In many countries, debt managers and central banks work closely with financial sector regulators and market participants in this regard. This includes supporting market participants in their efforts to develop codes of conduct for trading participants, and working with them to ensure that trading practices and systems continuously evolve and reflect best practices. It can also include promoting the development of an active repo market, in order to enhance liquidity in the underlying securities, and minimize credit risk through collateralization.³⁶

72. A government can promote the development and maintenance of an efficient secondary market for its securities by removing both taxation and regulatory impediments that hinder investors' willingness to trade securities. These include removing possible regulations that provide captive funding from financial intermediaries to the government at low interest rates, and modifying tax policies that distort investment in and trading of financial and non-financial assets. In addition, government approaches to regulating financial markets and market participants often include a wide range of disclosure and supervision requirements to reduce the risk of fraud, and limit the risk that market participants may adopt imprudent asset and liability management practices that could increase the risk of insolvency and systemic failure in the financial system.

73. Central banks play a crucial role in promoting the development and maintenance of efficient markets for government securities through the pursuit of sound monetary policies. By conducting monetary policy in a way that is consistent with their stated monetary policy objectives, central banks help to increase the willingness of market participants to engage in transactions across the yield curve. Central banks are increasingly implementing monetary policy using indirect instruments that involve transactions in government securities. Proper design and use of such instruments have typically played an important role in contributing to

obligations, as well as eligibility criteria to become a primary dealer, need to be defined and disclosed.

³⁶ Committee on the Global Financial System, "How Should We Design Deep and Liquid Markets? The Case of Government Securities," Bank for International Settlements, Basel, October 1999.

deep and liquid markets for these securities. For example, day-to-day open market operations to implement monetary policy can foster adequate market liquidity, thereby contributing to well-functioning financial markets.

74. The systems used to settle and clear financial market transactions involving government securities should reflect sound practices.³⁷ Sound and efficient payments, settlement, and clearing systems help to minimize transaction costs in government securities markets and contain system risk in the financial system, thereby contributing to lower financing costs for the government. Agencies responsible for the payments, settlement and clearing systems for financial transactions normally work closely with market participants to ensure that these systems are able to function well under a wide range of trading conditions.

³⁷ Relevant work in this area includes: The Group of Thirty (G-30) recommendations on clearance and settlement of securities transactions (1989), which cover nine general principles including such aspects as central depositories, netting schemes, delivery versus payment systems, settlement conventions, and securities lending; the *Disclosure Framework for Securities Settlement Systems* published by the Committee on Payment and Settlement Systems (CPSS) and the International Organization of Securities Commissions (IOSCO), 1997; the CPSS *Core Principles for Systemically Important Payment Systems*, 2001; and the CPSS-IOSCO Joint Task Force consultative report, *Recommendations for Securities Settlement Systems* (2001).