

Developing a Government Bond Market: An Overview

1.1 Introduction

The need to develop domestic securities markets has, following the recent international financial crises, increasingly attracted the attention of national and international policymakers.¹ This has resulted in the issuance of a number of policy recommendations by various organizations, such as the Asia-Pacific Economic Cooperation (APEC) collaborative Initiative on Development of Domestic Bond Markets. The issue of government debt management is intrinsically linked to government securities market development. Work is currently under way on this issue at the International Monetary Fund (IMF) and the World Bank, where guidelines have been developed to guide government actions as an issuer, thereby steering development of the government securities market.² This handbook on government securities market development seeks to fill an existing gap between specific technical studies about securities market microstructure and publications that offer general policy recommendations about securities market development. The handbook integrates these two perspectives by outlining important issues confronting senior strategic policymakers or those implementing policies to support development of a government securities market.

1. The Working Group on Capital Flows, one of three working groups established in 1999 by the Financial Stability Forum (FSF), highlighted the importance of both debt management and the related issue of securities market development as part of efforts to strengthen risk management and governance in the public sector (see Financial Stability Forum 2000).
2. See IMF and World Bank 2001.

Developing a government securities market is a complex undertaking that depends on the financial and market system development of each country. For many governments, this involves immense challenges, as the problems that inhibit securities market development run deep in the economy. For example, some governments rely on a few domestic banks for funding, which makes competition scarce and transaction costs high. In addition, a proliferation of government agencies issuing securities can fragment national government securities markets. Absence of a sound market infrastructure may make specific actions to develop a government securities market premature. A paucity of institutional investors, low domestic savings rates, and lack of interest from international investors can result in a small, highly homogeneous investor group, contrary to the heterogeneity needed for an efficient market. Furthermore, economic instability, often fed by high fiscal deficits, rapid growth of the money supply, and a deteriorating exchange rate, can weaken investor confidence and increase the risks associated with development of a market for government securities. This overview of the handbook on developing a government securities market examines some of the policy questions that arise for policymakers seeking to address these and other problems.

1.2 Benefits of Developing a Bond Market

Bond markets link issuers having long-term financing needs with investors willing to place funds in long-term, interest-bearing securities. A mature domestic bond market offers a wide range of opportunities for funding the government and the private sector, with the government bond market typically creating opportunities for other issuers. In this handbook, the market for government securities is defined as the market for tradable securities issued by the central government. The primary focus is on the market for bonds, which are tradable securities of longer maturity (usually one year or more). These bonds typically carry coupons (interest payments) for specified (for example, quarterly) periods of the maturity of the bond. The market for Treasury bills (securities with a maturity of less than a year) and other special securities is considered here in the context of developing a long-term bond market.

Table 1.1. Composition of Domestic Debt Markets in Selected Countries
(outstanding amount, September 2000)

	<i>All issuers</i> <i>US\$ billions</i>	<i>Public</i> <i>sector</i>	<i>Financial</i> <i>institutions</i> <i>(percentage share)</i>	<i>Corporates</i>
United States	14,335.8	56	28	17
Japan	6,329.0	76	13	12
Germany	1,603.4	43	56	1
Italy	1,213.3	77	21	1
France	1,005.7	59	30	11
United Kingdom	851.5	49	32	19
Spain	306.1	82	10	8
Brazil	306.7	83	16	1
South Korea	304.4	28	33	40
China	261.3	66	31	2
Argentina	83.7	31	69	0
Mexico	68.5	81	6	13
Turkey	47.5	100	0	0
Hong Kong, China	41.5	40	49	11
Poland	30.5	100	0	0
Czech Republic	20.9	78	12	11
Singapore	22.3	39	0	9
Hungary	14.9	97	0	3
Russia	8.8	100	0	0

Source: BIS Quarterly Review (March 2001).

Government bonds are the backbone of most fixed-income securities markets in both developed and developing countries, as can be seen from Table 1.1. They provide a benchmark yield curve and help establish the overall credit curve. Government bonds typically are backed by the “faith

and credit” of the government, not by physical or financial assets. In the private sector, however, mortgage financing often relies fully or partially on bonds backed by mortgages. Similarly, bonds securitized by receivables of various types, including bonds issued to finance infrastructure projects, constitute an important component of the bond market.

Bond markets worldwide are built on the same basic elements: a *number of issuers* with long-term financing needs, *investors* with a need to place savings or other liquid funds in interest-bearing securities, *intermediaries* that bring together investors and issuers, and an *infrastructure* that provides a conducive environment for securities transactions, ensures legal title to securities and settlement of transactions, and provides price discovery information. The *regulatory regime* provides the basic framework for bond markets and, indeed, for capital markets in general. Efficient bond markets are characterized by a competitive market structure, low transaction costs, low levels of fragmentation, a robust and safe market infrastructure, and a high level of heterogeneity among market participants.

Development of a government bond market provides a number of important benefits if the prerequisites to a sound development are in place (see Section 1.3 below). At the macroeconomic policy level, a government securities market provides an avenue for domestic funding of budget deficits other than that provided by the central bank and, thereby, can reduce the need for direct and potentially damaging monetary financing of government deficits and avoid a build-up of foreign currency–denominated debt. A government securities market can also strengthen the transmission and implementation of monetary policy, including the achievement of monetary targets or inflation objectives, and can enable the use of market-based indirect monetary policy instruments. The existence of such a market not only can enable authorities to smooth consumption and investment expenditures in response to shocks, but if coupled with sound debt management, can also help governments reduce their exposure to interest rate, currency, and other financial risks. Finally, a shift toward market-oriented funding of government budget deficits will reduce debt-service costs over the medium to long term through development of a deep and liquid market for government securities.

At the microeconomic level, development of a domestic securities market can increase overall financial stability and improve financial intermediation through greater competition and development of related financial infrastructure, products, and services. Development of a securities market

can help change the financial system from a primarily bank-oriented to a multilayered system, where capital markets can complement bank financing. As government and related private sector securities markets develop, they force commercial banks to develop new products and to intermediate credit more competitively. The development of securities and credit markets and a related benchmark yield curve enables the introduction of new financial products, including repurchase agreements (repos), money market instruments, structured finance, and derivatives, which can improve risk management and financial stability. Finally, development of a securities market entails creation of an extensive informational, legal, and institutional infrastructure that has benefits for the entire financial system.

1.3 Basic Prerequisites for Successful Development of Government Securities Markets

It is not always necessary for a country to develop a government securities market. Even some mature economies do not have one, either because the government has not run budget deficits requiring funding through securities issues or because the country is not large enough to support the necessary infrastructure. Depending on the availability of alternative financing channels for the public and the private sectors, the size of the economy, and the maturity of the financial sector, better options might include private placements of securities, development of retail markets, or even regional solutions.

Government securities market development must be viewed as a dynamic process in which continued macroeconomic and financial sector stability are essential to building an efficient market and establishing the credibility of the government as an issuer of debt securities. Prerequisites for establishing an efficient government domestic currency securities market include a credible and stable government; sound fiscal and monetary policies; effective legal, tax, and regulatory infrastructure; smooth and secure settlement arrangements; and a liberalized financial system with competing intermediaries. Where these basics are lacking or very weak, priority should be given to adopting and implementing a stable and credible macroeconomic policy framework, reforming and liberalizing the financial sector, and ensuring the proper pace of liberalization in different areas (for example, financial sector versus capital account measures).

Both domestic and foreign investors will be reluctant to purchase government securities, especially medium- and long-term instruments, when there are expectations of high inflation, large devaluations, or high risks of default. Working toward a macroeconomic policy framework with a credible commitment to prudent and sustainable fiscal policies, stable monetary conditions, and a credible exchange rate regime is therefore important (see Annex 1.A). Such steps will reduce government funding costs over the medium to long term, as the risk premia embedded in yields on government securities fall.

From the perspective of government securities market development, management of fiscal policies must aim at increasing the incentives of both domestic and foreign investors to invest in government securities. If a country is seen as not having the ability to manage its public expenditures or collect tax revenues, or if it has built up substantial explicit or implicit domestic or foreign debt obligations, investors will perceive a high default risk and the cost of financing government securities will rise.

Inflationary expectations will feed directly into longer-term nominal government securities yields and affect not only government funding costs, but also, in countries with volatile monetary conditions, the government's ability to extend the yield curve beyond very short maturities. Thus a credible commitment to contain inflation is critical for government securities market development. A coordinated approach to a monetary/fiscal program via appropriate information sharing will be important in this respect. The availability of the necessary information to analyze such a program and to use the information effectively in the formulation of sound monetary and debt management policies will also be essential. As most governments have their primary account with the central bank, day-to-day operational coordination between the monetary authorities and the Treasury will be important in establishing an orderly market where liquidity balances can be forecast with a minimum of uncertainty.

Exchange rate and capital account policies have important implications for the development of government securities markets, especially for their ability to attract foreign investors in many countries. Foreign investors have played a major role in the development of government securities markets and in catalyzing development of the necessary infrastructure by infusing new competition into otherwise stagnant markets. Foreign investors will consider the yield on domestic government securities in light of international interest rates, a time-varying exchange rate risk premium reflecting

the expected rate of exchange rate depreciation or appreciation, and a default risk premium. Exchange rate and capital account policies can affect each of these risks in combination with fiscal and monetary policies, and inappropriate policies can result in increased interest rate and exchange rate volatility. Such volatility hinders development of government securities issues with long maturities and can hurt secondary market liquidity when there are no complementary markets that investors can use to protect against the risk of price movements. The risk of contagion from external crises places a large premium on pursuing macroeconomic policies that maintain a prudent and sustainable level, structure, and rate of growth of government debt and international reserves. Sound fiscal policy, in combination with proper overall debt and reserve-asset management, can help to substantially lessen the extent to which a country will be subject to contagion when economic shocks occur.³

The soundness of the banking system also has important implications for development of the government securities market. Domestic and foreign investor concerns about the soundness of the banking system will adversely affect the ability of the government to roll over or issue new debt. At another level, lack of financially healthy intermediaries will cause secondary market liquidity and efficiency to fall. A banking system in crisis will further complicate development of a government securities market because important related markets, such as those for interbank and repurchase agreement transactions, are unlikely to function properly. Significant liquidity shortages, therefore, are likely to arise (see Annex 1.B).

The structure of the financial system and its links to macroeconomic policies must be given careful consideration early rather than late in the reform process.⁴ Financial sector liberalization must be preceded by important actions to strengthen information infrastructure, supervision, and regulation, and in many cases modify the definition of the safety net. The process to adopt in undertaking domestic financial sector liberalization is not independent of leverage present in the financial system and the corporate sector as well as the overall macro policy stance. In addition, phasing

3. Ironically, a more liquid and developed government securities market can increase the possibility of contagion when foreign investors treat emerging markets as one asset class. Even with sound fundamentals, a country with liquid markets may see foreign investors sell its securities as general uneasiness spreads about emerging market risk.

4. See Dooley 1998a and 1998b.

in capital account deregulation after domestic financial sector liberalization is increasingly seen as the preferred course of action.

The many challenges involved in providing the appropriate macroeconomic and financial framework needed to develop a government securities market should not deter authorities from embarking on such an endeavor, as the potential benefits to the government and the economy are considerable. In its role as regulator of the market and, in many cases, the primary issuer, the government is a central player in the government securities market. The central bank, in implementing monetary policy, will also influence market structure. Such official actions will inevitably influence the way the market develops. Given the involvement of several government entities in the process of market development, it may be critical to designate a coordinating body to guide the way forward. A high level committee on which all relevant government sectors are represented, and which interacts with the private sector, may be a useful tool to spearhead market development efforts. The following sections provide an overview of the principal strategic policy questions and associated initiatives that may help government securities markets to develop. The sections are based on the content of the different chapters of the handbook and follow its chapter sequence.

1.4 Money Markets and Monetary Policy Operations

An active money market is a prerequisite for government securities market development. A money market supports the bond market by increasing the liquidity of securities. It also makes it easier for financial institutions to cover short-term liquidity needs and makes it less risky and cheaper to warehouse government securities for on-sale to investors and to fund trading portfolios of securities. Where short-term interest rates have been liberalized, development of money and government securities markets can go hand in hand. When a money market has materialized and the government securities market is ready to take hold, coordination with monetary policy operations becomes essential for sound market development. Monetary policy operations are the responsibility of the monetary authorities and have increasingly been left solely to the purview of the central bank. There are, however, some overlapping areas requiring coordination between the government securities market and the money market. There are a number of questions

with which policymakers should be concerned. Are add-ons to Treasury bill auctions the appropriate instrument for monetary policy implementation? How can coordination between monetary authorities and debt managers be enhanced? How can predictions of the liquidity effects of the government's expenditure and revenue flows be improved (see Chapter 2)?

Most countries are moving from the use of direct monetary policy tools, such as interest rate controls and credit ceilings, to the use of indirect monetary policy instruments, such as open market operations. Indirect monetary policy instruments have the advantage of improving the efficiency of monetary policy by having financial resources allocated on a market basis. In addition, growing financial market integration has made direct monetary controls increasingly ineffective as agents have found it easier to circumvent them. Government securities are particularly important instruments to implement indirect monetary policy operations. In most countries, these securities are the most liquid securities in the market.

The central bank's accommodation policy, which temporarily supplies reserve money to the market when changes in money market conditions are particularly tight for particular banks, influences the development of the money market. If accommodation policy makes it easy and cheap for banks to obtain funds from the central bank, banks will transact less with each other. A money market will not readily develop under such conditions.

The ability of the central bank to maintain the level of excess reserves very close to that desired by the banking system as a whole will induce individual banks to use the interbank market to fulfill their specific liquidity needs. In addition, by reducing the likelihood of a large surplus or shortage of reserves through close liquidity management, the central bank will reduce volatility of interest rates. As high volatility tends to result in one-way markets, a reduction in volatility will also support further development of the interbank money market.

Where government securities are already in circulation and financial markets are thin, using the same instrument for both the Treasury's funding operations and the central bank's monetary policy operations can avoid market fragmentation. In countries where a range of market intervention instruments has not yet been developed, add-ons to the Treasury bill auction are the main instrument for liquidity management. For purposes of monetary policy implementation, the central bank adds Treasury bills in addition to those sold to meet the government's funding needs. Add-ons

may confuse the market, since participants may not be aware of what portion of the tender will be used for implementing monetary policy and what portion to financing the government. Transparency needs to be ensured by announcing the amount of central bank add-ons. Explicit and well-defined arrangements should be made to ensure that the proceeds from the sale of add-ons should not be available for financing of government expenditure and for the cost sharing in relation to the interest costs of the add-ons. Without such arrangements, central bank/Treasury coordination of add-ons can become a source of misunderstanding and discord.

An alternative to add-ons more under the central bank's control is for the central bank to issue bills or accept deposits, which are employed, like add-ons, as a market intervention instrument. These obligations can substitute for Treasury bills where there is not yet a working Treasury bill auction. Central bank securities can be traded in the market, helping to facilitate development of a secondary market. Where there is a Treasury bill market, however, central bank bills may fragment demand, especially if Treasury bills and central bank bills carry similar maturities.

Coordination is required to avoid conflicts between the government's debt/cash management and the central bank's open market operations. In particular, the timing and amounts of government securities issuance will not always coincide with the needs of the central bank's monetary policies. The government may wish to issue securities at a time when the market is illiquid. The central bank must then choose whether or to what extent it will provide additional liquidity to the market to correct this condition. At a minimum, coordination requires that the issuer inform the central bank of its intentions to raise funds in the market. In addition, the government may be able to adjust the timing and amount of borrowing to better conform to conditions in the money market.

Government debt and cash management can coordinate with monetary policy by moderating the effect of government expenditures and receipts on the banks' cash balances and by keeping the central bank informed in a timely manner of government cash flows. In order to achieve an accurate forecast of the government's funding requirements, it is necessary to develop day-by-day forecasts for revenues and expenditures for items being received or paid by the government. The only transactions that need to be forecast as a part of improved coordination with monetary policy are those that cause a shift of funds between an account at the central bank and an account at a commercial bank, since those are the only

transactions that affect the government's net position at the central bank. However, full cash forecasting can be important for the government's own purposes, for good cash management can result in cost savings for the government through lower transaction balances and fewer payment errors. Improving the government's cash balances forecast requires good communication among government departments and between the Treasury and the central bank.

1.5 Government Securities Issuance Strategy and Market Access

The government securities issuance process influences the government securities market development. Credibility in offering securities takes time to acquire, and must be built, or the market will not develop. In this context, a number of questions arise for policymakers. What are the appropriate objectives for government debt management? What is the most efficient way for the government to access the credit market? What are the benefits and drawbacks of using primary dealers to issue government securities? What are the optimal characteristics of government securities issues? Should the government establish benchmark securities? Should the government use more advanced debt management tools such as reopening issues, debt buybacks, debt/equity swaps, and exchange offers (see Chapters 3, 4, and 5)?

1.5.1 Government Securities Issuance Strategy and Debt Management⁵

A market-oriented government funding strategy is one of the essential pillars supporting development of a domestic securities market. Such a strategy includes the government's adherence to basic market principles of broad market access and transparency, a commitment to finance itself through the market, and a proactive approach in developing the necessary regulatory framework to support market development.

5. See IMF and World Bank 2001.

Governments need to improve market access and transparency by providing high-quality information about debt structure, funding needs, and debt management strategies to market participants and the public at large. They must solicit investors' and market makers' views on the current strategy and plans for change. In this way, the government will better understand the sources of demand for its instruments and have the ability to act to remove barriers obstructing investment in them. The government can demonstrate its commitment to borrow through the market by early acceptance that debt instruments must be priced at market rates, even though this may increase debt servicing costs in the short run. Finally, a proactive approach to market development requires governments to develop a comprehensive strategy in consultation with the central bank, relevant regulatory agencies, and market participants.

A sound and prudent debt management operation is also central to the government's credibility as an issuer. The principal components of sound debt management in many countries are based on the importance of having clear debt management objectives, proper coordination between debt management and monetary and fiscal policy, a prudent risk management framework, an effective institutional framework, and a strong operational capacity enabling efficient funding and sound risk management practices. A consensus is evolving in which the main objective for 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."⁶ Development of the domestic debt market is also often included as a prominent government objective. This objective is particularly relevant for countries where short-term debt, floating-rate debt, and foreign currency debt are, in the short run at least, the only viable alternatives to extensive borrowing from the central bank.

A strong organization capable of attracting and retaining a professional staff to the debt management area is also vital for a sound debt management operation. Access to appropriate analytical and information tools will be essential to the day-to-day efficiency of debt management operations and the development of debt management strategies. To further increase credibility of debt management, a sound governance arrangement

6. See IMF and World Bank 2001.

and operating relationships in the Ministry of Finance and between fiscal and monetary authorities need to be established. As outlined in the *Guidelines for Public Debt Management*,⁷ a clear legal framework, well-specified organizational arrangements, and public disclosure and auditing procedures are key elements of an effective governance structure for public debt management.

As part of developing and maintaining a well-functioning government securities market, authorities will have to provide clear and timely information about the structure of the public debt and Treasury operations, including amortization schedule, issuing calendar, description of outstanding securities, schedule for buybacks or reopenings where relevant, and Treasury cash balances. There should also be disclosure of essential budget information and simple presentations of balance sheets by the central bank and fiscal authorities.

1.5.2 Government Securities Instruments and Yield Curve

The development of government benchmark securities is an essential element of a well-functioning government securities market. By concentrating new issues of government securities in a relatively limited number of popular, standard maturities, governments can assist the development of liquidity in those securities and thereby lower their issuance costs. Markets, in turn, can use such liquid issues as convenient benchmarks for the pricing of a range of other financial instruments. In addition, spreading the relatively few benchmark issues across a fairly wide range of maturities—building a “benchmark yield curve”—can facilitate more accurate market pricing of financial instruments across a similar maturity spectrum.

Governments need to take a variety of actions to ensure that the government securities market cannot be easily manipulated and that it has sufficient liquidity. Steps will be needed to reduce government securities market fragmentation by consolidating, under national issuance, what would otherwise be issues by many public entities and by issuing uncomplicated securities such as Treasury bills and bonds. Policymakers will have to weigh the advantages of longer-term benchmark issues against the possibility of higher cost associated with longer-term benchmark bonds,

7. See IMF and World Bank 2001.

the concentration of refinancing risk that comes with focusing on maturities, and the needs of government debt financing and benchmark development. Governments, in the nascent stages of a government securities market, may have to rely on floating or adjustable rate instruments to increase the average maturity of the government debt to deal with refinancing risk.

The various types of securities used by governments in the domestic market have typically different characteristics in terms of maturity, coupon (interest rate), method of interest setting, and use of embedded options. The dominant ones have historically been nominal fixed-interest instruments, with coupon rates close to market rates at the time of issue. This type of bond offers standardization and simplicity. Typical benchmark maturities in the domestic markets are 10, 5, and 2–3 years. A number of countries have also issued fixed-interest, 30-year bonds. Treasury bills dominate the short end of the government securities market, with maturities normally less than one year. These bills are typically issued as zero-coupon instruments.

Floating rate notes and bonds with variable interest rates have, in some countries, historically played an important role in extending the maturity of government debt. In most of the Organization for Economic Cooperation and Development (OECD) countries, however, floating rate bonds are no longer used as primary issues. More prominent in recent years have been longer-term bonds linked to an inflation index.

For most countries, the simplest choice of funding instruments will be the appropriate one. Standard marketable Treasury bonds will often be the main funding instrument. Special purpose bonds, including nonmarketable instruments, should generally be issued with caution, since they will fragment the market and, if certain receipts are earmarked to pay the bond, complicate budget management. Furthermore, governments should strive to have as few public issuers as possible. Many entities issuing securities in the name of the government will fragment the market and make a consolidated strategy for market development difficult to implement.

1.5.3 Primary Market Structure and Primary Dealers

Selling and distributing government securities to investors efficiently involves the choice of sales procedure (auctions, retail schemes, tap sales, and/or syndication) and the possible use of primary dealers. In return for meeting the obligations for being designated a primary dealer, governments

grant primary dealers some privileges, often including exclusive access to the auctions.

Auctions are the common method for the sale of government securities in most domestic markets, following the pattern of Treasury bill auctions and requiring a number of independent bidders. Some countries have also used tap sales, either in combination with auctions or as the sole sales method, but the latter is rare. Syndication is increasingly being used in Euro-zone countries to launch new products or benchmark issues or reach new investors in the region. Syndicates can be a useful alternative to auctions in the nascent stages of market development, where too few participants can easily destroy the competitive outcome of an auction procedure. Where there is not an active, liquid secondary market, making the government uncertain about the price it will achieve for a new bond issue, syndication (or other underwriting arrangement) can be used to minimize placement risk and ensure allocation. The use of the Internet also opens new possibilities for the government to build a broader investor base. The most important policy objective in choosing a securities issuance technique is usually to maximize potential competition in the primary market. This might require the use of different sales techniques over time to achieve the optimal result.

Another element of government securities market design relates to the use of primary dealers. Primary dealers are financial intermediaries selected by the government, typically to promote investment in government bonds and activity in the government securities market. Having a group of primary dealers to buy and distribute government securities entails advantages and risks. Setting up a primary dealer system can facilitate the change to a market-based funding environment. It may also improve the government's ability to tap potential investors and develop market liquidity. In addition, in countries where the technological infrastructure is not strong and where the potential investor base can only be accessed via intermediaries, the use of primary dealers may initially be needed. Some governments, through regularly scheduled meetings and ongoing discussions with actual and potential primary dealers, have also used the primary dealer system to generate interest in government securities markets. If a primary dealer system is chosen, objective criteria for entry and exit of participants, limits on amounts of securities any individual dealer is allowed to hold, and the capital requirements to qualify to be a primary dealer must be set and observed. Standards governing dealers' trading practices and disclosure to clients and issuers will also be important.

The use of primary dealers, especially in countries with a small financial sector, may pose the risk of collusion. Despite limitations on the amount of securities any one dealer can hold and safeguards built into the auction design, small markets can be squeezed or cornered, seriously limiting the attractiveness to the government of a primary dealer system.⁸ Even in the absence of collusion, the installation of primary dealers in a small market may unnecessarily limit competition. Primary dealer systems may also be difficult to implement in markets which do not provide liquidity generating tools such as repos.

Some governments have successfully issued securities and developed secondary markets through a wider group of dealers. A primary dealer system should not impede development of efforts over time to distribute government securities directly to wholesale or retail investors, onshore or offshore.

Before policymakers embark on development of a full-fledged primary dealer system, they should carry out an extensive review of the most effective way to sell and distribute government securities. The review should consider (i) the structure of the wholesale and retail investor base, offshore and onshore; (ii) the level of development of the financial system and the role of banks and the soundness of intermediaries; (iii) how technology might be used to create other avenues for distributing government securities more directly to end investors; and (iv) the accounting framework for fixed-income portfolios. The objective should be to balance the benefits of having a dedicated group of intermediaries to assist in market development with the decrease in (potential) competition that follows from limiting the number of primary dealers. It must also consider the extent to which dealers will have the instruments and techniques to manage the risks that they take in carrying an inventory of fixed-income securities.

8. Irrespective of whether a primary dealer system is used and as a way to break collusive practices, the government at times may have to threaten buyers with the prospect of being forced to take issues or of changes in the method of marketing. It might also reject bids or cancel auctions in the extreme case where collusion is evident. Even the most liquid markets have experienced squeezes, with the so-called "Salomon incident" in the United States in 1991 providing a good example. Having learned from this experience, the U.S. Treasury now offers approaches to auction design and other procedures aimed at preventing collusive practices (see U.S. Department of the Treasury 1992).

1.6 Investor Base for Government Securities

Reliance by governments on captive sources of funding whereby financial institutions are required to purchase and hold government securities, often at below-market interest rates, is diminishing in many countries. Instead, countries are developing a diversified investor base for their government securities. Investors in developed government securities markets can range from wholesale domestic and foreign institutional investors to small-scale retail investors. In addition to commercial banks, an important investor segment in many countries is the contractual savings industry (insurance companies and pension funds). Funding of government-backed pension or social security systems through specialized funds has also provided a large, stable demand for fixed-income securities in countries where such funds are active. A diversified investor base for fixed-income securities is important for ensuring high liquidity and stable demand in the market. A heterogeneous investor base with different time horizons, risk preferences, and trading motives ensures active trading, creating high liquidity. On the other hand, even liquid markets can become illiquid in periods where one group of investors leaves or enters the market over a short period and where there are no counterbalancing order flows from other investor groups.

For policymakers, there are a number of important questions to address with regard to the development of the investor base. Should the dominance of banks as investors in government securities be diminished? How can a contractual savings industry be developed? How can mutual funds and other collective savings schemes play a role in government securities market development? How can demand from retail investors for government securities be satisfied most efficiently? Should foreign investors be allowed into the market, and under what conditions (see Chapter 6)?

1.6.1 Banks as Investors of Government Securities

Commercial banks are (in many emerging markets) the dominant investors in government securities. In developed countries, banks still provide a valuable source of demand for government securities.⁹ Excessive reliance on the

9. Banks use government bonds for stable interest income to balance more volatile investments, such as collateral in repo transactions, for hedging mismatches in other interest rate positions, for short-term liquidity management, for taking views on the future movement of interest rates, and for meeting regulatory reserve requirements.

banking system to mobilize savings that fund the purchase of government securities has, however, proved to be costly for many governments and investors. Even in systems where their main assets are government securities, banks have maintained a high margin between deposit rates and the risk-free return on government securities that they hold as assets.¹⁰ An important aspect of developing a broader-based government securities market is, therefore, seeking ways to break this behavior and encourage banks and other financial institutions to promote the sale of government securities to other end investors. A combination of efforts may be used to achieve this goal, including (i) use of an obligation in primary dealer systems to place securities with end investors; (ii) direct access to major savings pools, such as retail and/or foreign investors; (iii) structural reform of pension and retirement funds to encourage their investment in government bonds; and (iv) reform or creation of mutual funds.

1.6.2 Contractual Savings and Government Securities Markets

The contractual savings sector has been especially important for fixed-income securities markets, as it provides a stable source of long-term demand. The sector's demand for fixed-interest, low-credit-risk products also provides an important basis on which to develop standardized, securitized products such as mortgage bonds. Widespread regulatory provisions requiring pension funds and insurance companies to invest a large portion of their assets in so-called gilt-edged assets has helped make this sector prominent in the government securities market.

A variety of countries have embarked on pension, insurance, and health reforms, which are associated with contractual savings reforms. These reforms are technically and politically complex and require the authorities' commitment to a broad and politically difficult set of actions.¹¹ As these reforms take effect, the contractual savings industry is likely to become

10. Part of the spread is maintained to compensate banks for the maturity transformation function they perform by accepting liquid deposits and investing in longer-term assets. With a liquid secondary market for government securities, however, the risks involved are reduced substantially.

11. See Vittas 1998 and 2000.

a more significant factor in capital markets, including the government bond market. In addition to the industry's demand for long-term debt securities, institutional investors will, upon reaching a certain critical mass, increase corporate governance, intensify competition, and spur financial innovation. In contractual savings reform efforts, it is important to keep in mind that their contribution to the development of government securities markets is a useful by-product, but not the primary objective, of contractual savers.

Perhaps more important than the sequencing of securities market development and contractual savings reform is the dynamic interaction between these two areas. The interactive process between government securities markets and the contractual savings industry involves investors acting as a countervailing force to the dominant position of commercial banks in the government securities market. This creates competition and pressure for innovation in securities markets, forcing more transparency and better standards for disclosure of information.¹²

Insurance reforms associated with pension reform have led to the need for annuity markets. In Chile, where such markets are more advanced than in many other emerging countries, insurance companies offering variable rate or index-linked annuities became natural demanders of indexed-linked government bonds. This is yet another channel through which contractual savings reforms help to develop the government securities markets.

In some countries the directional interaction between contractual savings development and capital market development has originated from the capital market end. Some East European countries (the Czech Republic, Hungary, and Poland) that are seeking accession to the European Union (EU) are experiencing capital market development, which, in turn, has facilitated pension reform.

1.6.3 Collective Investment Funds and Government Securities Markets

Collective investment funds, such as mutual funds, can play an important role in the development of the government securities market, especially the

12. See Vitas 1998 and 2000.

shorter-term segments of the market. They can also serve as an alternative placement for funds other than bank deposits, inducing more competition in this part of the financial sector, and can be a cost-effective way for the government to reach retail investors. Collective investment funds (CIF) that are established domestically or offshore should be allowed into the government securities market. Such entities must be subject to mark-to-market accounting and trading practice regulations. The latter would include disallowing the mingling of funds managed by the CIF and funds managed by related intermediaries, such as banks, or “front running” by the related brokerage entity within the same financial group that sells the CIF. Adequate disclosure to investors and minimum standards for prospectuses are also essential but often lacking.

Allowing entry of foreign institutions into this field has, in many cases, had the benefit of putting pressure on domestic companies to develop their business and lower their costs. The market impact of foreign institutions has been much larger than their share of assets under management would suggest. Restrictions on foreign entry into this financial service area, as well as entry via cross-border provision of these services, should therefore be eliminated or phased out.

1.6.4 Retail Investors and Government Securities Markets

Catering to the needs of retail investors is often an essential part of the overall strategy to develop a more diversified investor base for government securities. Retail investors will contribute to a stable demand for government securities, which, in times of volatility, can cushion the impact of sales from institutional and foreign investors. Retail demand has been developed in many countries through special non-tradable instruments, although this strategy will not contribute to development of the government securities market. For such market development, a better course is to concentrate on developing efficient mechanisms for delivering standard securities to retail clients. In many emerging markets, the administrative and information technology costs of going straight to retail investors have been prohibitive. However, as Internet penetration and wireless communication systems have become more commonplace, this situation is rapidly changing, and possibilities for cost-efficient sale and distribution of government securities are

increasing. Utilizing such new technology to access a broader set of potential investors could also have implications for the design and functioning of the primary market, and will put bank dominance in the retail end of the market under pressure.

1.6.5 Foreign Investors and Government Securities Markets

The role, behavior, and importance of foreign investors in national capital markets, including government securities markets, have received much attention in both mature markets and developing countries. Foreign investors are an important source of demand for fixed-income securities. Through the positive pressure they place on the quality and services of intermediaries and their emphasis on sound, safe, and robust market infrastructure, they have contributed to the development of national capital markets in many countries. However, because foreign investors tend to be relatively more sensitive to risk and to manage their portfolios actively, they may make national markets more volatile and vulnerable. A stable macroeconomic environment and prudent capital account liberalization, therefore, are essential to maintain a stable and growing participation of foreign investors in government securities markets.

Foreign investors include funds dedicated to investment in emerging markets, such as some hedge funds and other specialized closed and open-end country or emerging-market funds. They also include crossover investors, such as pension funds and insurance companies not as dedicated to investing in a particular region or even country, as with some types of funds, and other more specialized investors engaged in private capital operations, arbitrage trading across fixed-income securities, and distressed asset investments through specialized distressed asset funds.

Depending on their own liability structure, foreign investment vehicles can place very different emphasis on the liquidity of their prospective investment. For example, hedge funds, which are macro-directional and lacking a long lock-in period on liabilities, will place a very large premium on liquidity. This greatly limits their prospects for investing in many emerging markets and the size of their positions. Crossover investors and more specialized funds will not provide as much liquidity to local markets, but will often be willing to stay in the investment for a longer period, and some policymakers, therefore, see them as especially beneficial.

1.7 Secondary Markets for Government Securities

Promoting a vibrant secondary market for government securities has proved to be one of the more difficult aspects of government securities market development. Successful development of the secondary market requires the active participation of many different groups, including investors, providers of trading and settlement infrastructure, and intermediaries. The involvement of these groups can easily be dampened by arbitrary changes in taxation, other government actions affecting the value of government securities, high inflation, economic downturns, and political instability. Without the confidence of these groups in government actions and commitment to market development, countries will, even after extensive reforms in many other areas, most likely end up with low levels of secondary market trading.

Policymakers face some important questions related to secondary market development. Which transactions and market practices should be allowed (short selling, repurchase agreements, futures)? What types of intermediaries should be allowed or encouraged to participate in the market? Should the authorities promote certain systems for trading? What is the appropriate level and form of transparency in the market (see Chapter 7)? In addition, the issues raised in other chapters of the handbook related to the government's issuance strategy, the development of benchmark securities, the settlement structure, and taxation of securities traded on secondary markets will have a bearing on the efficiency and vibrancy of the secondary market.

1.7.1 Transactions and Trading Procedures in Secondary Government Securities Markets

The fundamental form of transaction in the secondary market is a spot trade in which cash is exchanged for the immediate purchase or sale of a security. Authorities should first concentrate on building a safe system for the execution and settlement of spot trades. In fostering secondary markets, the authorities would also wish to develop the use of repurchase agreements (repos), as they serve unique functions for both the private sector and the monetary authority. The concept of bridging the short- and long-term portions of the yield curve is all important. Short selling, swap transactions,

futures, and options on interest rates are trading practices that will develop over time.¹³ In the nascent stages of market development, however, emphasis should be placed on building the infrastructure to support basic types of transactions, and the development of more advanced instruments should be left to a later stage.

The authorities will need to consider and enforce regulations concerning the trading practices of market participants. Trading practice regulations cover such matters as best execution, self-dealing, insider trading, market manipulation, conflicts of interest, and front running. Without such regulations, market integrity will suffer and investor interest may wane.

1.7.2 Market Intermediaries in Secondary Government Securities Markets

The main function of intermediaries in the government securities market is to place securities with investors and provide liquidity to secondary markets. One of the more important intermediaries in the secondary market is, in many cases, the primary dealer, which often acts as a market maker in government securities. A market-making obligation helps ensure a market for investors who wish to sell a security before its maturity.

Policymakers should recognize both the importance of market-making intermediaries for secondary market liquidity and the need for this activity to be profitable for the intermediaries. Market making entails interest and liquidity risk as the dealer may not always be able to sell at a reasonable price the securities it has purchased from a customer. A dealer must have

13. The trading practice of selling securities “short” through the sale of borrowed securities has been prohibited in some emerging markets. Short sales, it is argued, increase market volatility and risks. The ability to sell short, however, can also have a positive effect, by increasing market liquidity and price efficiency through the incentives of market participants with opposing views on the market to trade actively. Approval of short selling will largely depend on the assessment by the authorities of the intermediaries’ capacity to handle the extra risk involved. In any case, market participants should be properly measuring and managing the risks associated with their transactions. Short selling (and borrowing and lending securities) can greatly improve the capabilities of market makers to carry out their functions, and in many circumstances should be permitted.

sufficient capital to warehouse open positions and withstand losses. The market maker is rewarded by the private information about investor behavior it derives from trading as well as by the commissions/fees and bid/offer spread it applies to transactions with clients. In the case of primary dealers, there may also be a benefit from privileges or direct remuneration from the authorities. The use of primary dealers is, however, not a necessary condition for market making to develop.

To be effective in undertaking a market-making role, intermediaries must have a means of hedging against interest rate risks, which affect the cost of carrying an inventory of government securities. Without these tools, intermediaries tend to buy and hold securities, diminishing their action as market makers. The existence of forward, futures, swap, and option markets to protect intermediaries against interest rate risk can help improve the functioning of government securities markets.

Fit-and-proper tests and proper certification for those permitted to act as investment advisors or to enter the brokerage business are important for well-functioning secondary markets. These requirements must be objective and should not introduce arbitrary entry barriers. Intermediaries and authorities must jointly reach agreement about such standards, which are being made internationally uniform through work of the International Organization of Securities Commissions (IOSCO) and the Financial Stability Forum (FSF). Uniformity also facilitates action by national authorities to permit foreign entities to offer brokerage and other services and to participate in national government securities markets.

Another form of regulation that can have an important impact on secondary market development is margin requirements that can be applied at four levels—to brokers and clients, broker/dealers, banks, and clearing corporation members, and to self-regulatory organizations (SROs). Margin requirements can apply to securities transactions within and across countries, through cross-margining, and to ex-post collateral-sharing agreements. Margin requirements guard against excessive leverage, require routinely marking overall positions to market, and can change in level in light of market developments. The design of such systems, their relation to securities borrowing and lending, and the consolidation process for determining exposures are essential for market integrity and management of risks. Authorities can set minimum standards for these margin arrangements and for acceptable forms of collateral.

1.7.3 Trading Systems and Conventions in Secondary Markets for Government Securities

Trading and information systems that facilitate an efficient completion of transactions are essential for an effective secondary market infrastructure. Such systems provide information about market prices and an effective venue for traders to meet. Electronic trading has traditionally been developed for equity trading, but it has begun to spread to the government securities market, which has typically been handled through trading by telephone. The scope and possibilities for automated trading of government securities is untested even in mature markets. The continuing development of new technologies in this area might provide possibilities for developing countries to skip some steps in the development of the market and, thus, merits close attention.

Fixed-income securities markets have traditionally been decentralized, with trading in over-the-counter (OTC) markets where the physical trading infrastructure has played a minor role. Trades have been conducted by dealers or large investors who directly contact a number of potential counterparties or by interdealer brokers (IDBs) in the professional dealer market, with trades completed by telephone and confirmed by fax. The relatively informal infrastructure has served the needs of wholesale market participants as well as dealers, brokers, and, to a lesser extent, their institutional clients.

Policymakers are often in a position to influence where trading takes place. The way governments influence trading behavior can be direct—for example, in the form of regulations requiring transactions to take place in a specific place for specific market participants, or indirect, through the provision of trading services or involvement in their development. The degree of government involvement has usually evolved over time, starting out as more interventionist. As the system creates enough liquidity to stand on its own, formal requirements have often been lifted.¹⁴

14. Regulatory requirements to use the exchange for trading have traditionally aimed at concentrating the market in one place to increase overall liquidity and at providing consumer protection and best execution of trades. To accomplish the latter, there may be small order exposure requirements for the exchange, and rules for not allowing dealers to sell directly to clients from their own inventory.

In designing the overall regulatory and disclosure framework applicable to secondary market trading systems (extent of entry or exit or whether to allow internalization or force disclosure of order flow, for instance), policymakers will need to consider the rapid advances in technology as well as the size of the country and the extent of its integration in regional and global capital markets. Arrangements to allow access by offshore as well as onshore investors should also ultimately permit participation of foreign investors worldwide, subject to consistency with overall capital account liberalization.¹⁵

Frequency of trading is also an important consideration in the development of secondary markets for government securities. Newly developed markets are usually thin and illiquid, making execution risk high. For these markets, market efficiency might be improved by short trading sessions (periodic markets). Periodic trading would have the added benefit of equal treatment of orders.¹⁶ As the economy develops, the factors changing the equilibrium price of government securities increase, accompanied by price volatility of securities. For such markets, increased trading frequency would be warranted, and at an appropriate time the market could move to continuous trading.

Automated trading systems are increasingly the preferred venue for most countries, with their costs three to four times lower than those of traditional exchanges using a floor and open-outcry method. These developments increasingly give official issuers the capacity to sell and distribute securities directly to final wholesale and retail investors. Given the rapid pace of technology in this area,¹⁷ freedom of entry to proprietary providers of trading systems that are organized as corporations must be ensured. Electronically based trading systems are characterized by network externalities, since additional users increase liquidity for all users. Under these conditions, questions relating to entry policy, competition, and the so-called first-mover advantage will become important.

15. Access by offshore investors to national secondary markets for government securities should include the ability of the issuing country to solicit non-national members to the automated trading system if certain standards are met. The European Union Investment Services Directive permits solicitation within the EU countries without the need for approval by individual country authorities.

16. See Dattels 1997.

17. See Domowitz and Steil 1999.

The design of the regulatory framework also needs to provide adequate transparency in the market. Most fixed-income securities markets have traditionally been opaque, with scant and delayed information on transactions available to the public. Major intermediaries will voluntarily provide pre-trade, or ex ante, indicative prices to the market through information vendors such as Reuters, Telerate, or Bloomberg. In some cases, primary dealers will be required to release prices to the market. Access to consolidated pre-trade information about market prices is, in most cases, very limited. In the United States, however, all completed transactions in the government securities market are reported to an electronic system, GovPX, which makes the information available to subscribers. This centralized reporting and dissemination system has resulted in an extremely transparent government securities market in the United States. In contrast, the general transparency of most government securities markets in the world is low, reflecting the traditional wholesale nature of the market and the perception among some market participants and regulators that there is a trade-off between liquidity and the level of market transparency.¹⁸

Regulation also needs to guarantee that trading systems have the capability of guaranteeing best execution through either a quote or order-driven market. There must be a clear set of standards developed for OTC and exchange trading of government securities, as well as for alternative trading systems (ATSs). If the overall distribution systems for securities involve dealers and OTC trading of government securities, there may also be a need for systems to support IDB trading, which could even apply over time across countries in a specific region. IDBs are brokers specializing in the wholesale segment of the market who facilitate trade between dealers by providing information and matching orders. They provide a centralized place where other brokers can execute trades, anonymously in most cases. An IDB can be a crucial element in an efficient market-maker system, since it provides

18. There is no consensus about the interaction between transparency and liquidity. A trade-off between liquidity and transparency may arise because knowledge of trade prices and quantities may expose market makers to undue risk as they unwind positions. It follows that transparency should be restricted if necessary to ensure adequate liquidity. Some have argued, however, that restricting transparency provides benefits to large traders at the expense of small traders. Still others have questioned whether restricting transparency may also reduce the speed with which market makers adjust prices, thereby reducing market efficiency. A further complication is introduced by the role of quote transparency (see Bloomfield and O'Hara 1999).

a means for market makers to quickly transfer unwanted risk to other market participants.

The ability to use audit trails and other forms of off-market surveillance to detect trading practice violations, such as front running and market manipulation, is also an essential aspect of a trading system. The safeguards, which need to be compatible across trading systems, will be increasingly essential in emerging markets as a defense against systemic risk. Such safeguards could include information sharing on high-risk participants or exchange members and arrangements for consolidation of all cash and derivative positions for the same market participant across financial and nonfinancial contracts.

In addition to outlining the overall trading and regulatory framework of the secondary market, the authorities can directly provide liquidity to the dealer community, give fiscal incentives to banks or broker/dealers, and reduce transaction costs by subsidizing investments needed to set up trading systems. The experience of many countries suggests, however, that indirect intervention by government has been more effective in developing markets. Indirect measures include reducing transaction costs by improving information or, in some instances, defraying the costs of setting up a trading system.

1.7.4 Related Markets and Secondary Markets

Related markets that often operate onshore and offshore can have an important effect on the liquidity of the secondary market for government securities.

The existence of a repurchase agreement (repo) market is essential for permitting the development of an active government securities market. Borrowing and lending among a range of market participants, including banks, financial institutions, and corporates, can be fostered on a safe and secure basis through the use of repurchase agreements that reduce both credit risk and transaction costs. Securities dealers use repos to finance their inventories of government instruments that are needed to make markets and two-way quotes. For this purpose, dealers “lend out” (or repo) securities that are in inventory but are not expected to be immediately sold. Thus dealers are able to leverage their capital and hold a larger inventory. A central bank can temporarily inject liquidity into the system by buying securities under repo. Because of the many uses made of repos, the demand for

government securities increases, while the underlying conditions for liquid secondary markets are put in place.

Foreign exchange markets in cash and derivatives provide information to market participants about exchange rate and implicit interest rate risks and allow them to hedge the risk of funding government securities purchases in foreign currency. These markets include the onshore foreign exchange market, which is often OTC and not very liquid, as well as non-deliverable forward contracts traded offshore among large counterparties that have more liquidity. Arbitrage between the domestic and foreign currency markets can, at times, increase volatility in interest rates and exchange rates in emerging markets, forcing authorities to properly integrate such factors into their debt management and monetary policy.

1.8. Securities Settlement Infrastructure for Government Securities Markets

The settlement system, including depository facilities, is a principal component of the infrastructure needed for government securities market development. The design and regulation of this system is a complex and technical matter with implications for the level of risk in the financial system, competition in the market, and ease of access. A number of questions arise for policymakers in this area. How can a sound legal basis for paperless (dematerialized) securities be secured? What is the most efficient way to set up a securities depository (organization, functions, fees, membership)? Should the government be directly involved (as investor or promoter) in setting up the securities settlement infrastructure? How can settlement procedures be designed to minimize risk (see Chapter 8)?

1.8.1 Securities Accounts and Government Securities Markets

An important factor determining the potential efficiency of the bond market is whether bonds are issued as paper or take the form of paperless (dematerialized) securities registered in securities accounts. Improvements in settlement systems have usually been based on replacing paper securities with securities accounts, and priority should be given to achieving this goal early in the process. Dematerialization of securities ensures that transactions take

place quickly and cheaply. Dematerialization can therefore play a vital role in reducing the settlement cycle to same-day settlement of trades. Security accounts also protect investors against destruction, loss, theft, or forgery of paper securities, eliminating the problem of tainted script. Most countries have a long legal history based on paper securities, and change will be resisted by some. Change to a system of securities accounts, however, is a prerequisite to further development in the settlement system for government securities. In an automated system, the legal structure must ensure the acceptance of electronic documents with regard to final settlement of transactions, be consistent with bankruptcy legislation, and recognize the beneficiary owner.

1.8.2 Depository Arrangements for Government Securities

Depository arrangements typically involve establishment of a central depository accompanied by subdepositories. Where the system is layered, the subdepositories should be linked to the central depository to prevent problems of multiple pledging of securities. Many countries have, at relatively low cost, developed a securities depository for government securities in the central bank. This is not the only option. Organizing the central depository as a separate agency, even if located within the central bank, allows for a clear delimitation of responsibilities, the possibility of independent oversight, and, at a later stage, full independence of the system. If custody is fully or in part privately provided, the governance arrangements and oversight must be sound. Policymakers should ensure that rules for membership are explicit and transparent, competition is allowed, and the law and external regulations promote proper governance. Those financial institutions that are eligible to use the depository have, in some cases, tried to limit direct access to the depository in order to keep new players out of the market. In other cases where the system is under the central bank, the risk that the central bank restricts members to just the main banks must be avoided, given its tradition of working with them, and its high capital requirements for participation in the payment system. For market development, however, wide access is usually preferable. Because of the centralized nature of a securities depository, policymakers might find regulation of the fee structure necessary to prevent monopoly pricing. In many nascent markets there might not be a sufficient number of transactions to recover the costs of building and running the system without pricing being set at a prohibitively high level. In

that case, transitory subsidies to the system may be needed until transaction volume becomes sufficient.

Efforts to link custody arrangements on a cross-border basis should be sought at a later stage to broaden the market base. For markets with a large foreign investor component, an efficient link between the national central securities depository and an international central securities depository, such as EUROCLEAR or Clearstream, has been important for market development. International institutional investors prefer to hold their securities from different markets in one central place, where liquidity from the sale of securities from one country can be used immediately to fund the acquisition of securities from another. The preference for the use of international central depositories, however, also has its background in a more practical back-office argument, as it is administratively easier for the securities manager to deal with only one depository.

1.8.3 Securities Settlement Procedures for Government Securities Markets

A large number of specific actions is usually needed to ensure that settlement of securities trades is secure and can be carried out according to the delivery versus payment (DVP) principle. This infrastructure requires the existence of some form of payment and settlement system for large-value transfers. The reserve accounts of banks are normally debited and credited at the central bank, but other arrangements are possible. A large-value transfer payment or other payment system, such as checks in less-advanced markets, must be seen as secure and provide finality of payment. To ensure DVP, it would be preferable that members of the depository have cash accounts at the central bank, thereby being able to settle both the payment and the securities sides of trades. The depository can, in this way, ensure finality for both securities and cash.

A smooth and efficient securities settlement system, which assures prompt settlement of securities transactions that are not subject to litigation, must have procedures for registration of securities holders and for handling settlement orders and matching of transactions. In addition, the settlement cycle must be determined. Traditionally, countries settled securities transactions on a multilateral net settlement (MNS) basis in which payment obligations are accumulated over some specified period, and at the end of the period the net settlement to be made or received by each

participant against the whole set of other participants is calculated and paid to or by the agent running the system. The MNS arrangement is subject to problems of settlement risk, which in the extreme could mushroom into a systemic settlement crisis. Consequently, a different settlement approach is being adopted—the real-time gross settlement system (RTGS). In this arrangement, securities transactions are settled bilaterally through the depository or subdepository on an ongoing basis and as promptly as feasible. The RTGS arrangement considerably reduces settlement risk.

Settlement of government and other forms of securities must be secure. This may require a separate clearing and settlement entity or the handling of clearing and settlement on an exchange. In an OTC market organization, these functions can be worked out bilaterally among counterparties. If such arrangements are not well designed, however, there can be scope for increased counterparty credit risk. Many countries still do not meet minimally acceptable standards in this area. It is important to note, however, that the collection of settlement orders, whether in the central bank or in an independent institution, need not be especially sophisticated. Online electronic communication should clearly be the goal, but even use of telephone, telex, and fax might be appropriate in the early stages, as long as proper validation rules, encryption, and authentication of messages are ensured.

Beyond actions needed to ensure secure trading of government securities, a similar infrastructure is needed to permit secured lending and to facilitate the use of repurchase agreements. An infrastructure that will permit the marking to market of securities borrowing and lending will also be important for these transactions and for recourse in the event of default.

1.9 Legal and Regulatory Framework for Developing Government Securities Markets

One major prerequisite for sound government securities market development is the legal, regulatory, and supervisory framework. The fundamental parts of the legal framework supporting an efficient domestic government securities market usually include an explicit empowerment of the government to borrow, budgetary rules for the issuance of government securities, rules for the organization of the primary market, role of central bank as agent for the government, the debt management framework, rules

governing issuance of government securities, and rules pertaining to the secondary market.

There are a number of important legal and regulatory policy issues related to the development of government securities markets that need to be addressed by policymakers. Is there a legal basis (constitution or legislation) for the government's borrowing authority? How can ceilings for government securities issuance be established? What should the legal boundaries for primary markets be? Is there a role for SROs in the government securities market? Should disclosure or rules ensure investor protection in the government securities market (see Chapter 9)?

1.9.1 General Considerations

Legal and regulatory reforms must be in place before a local or offshore government securities market can be developed. A balance must be struck among the needs for proper risk control, market integrity, and market development. The legal framework defines incentives for all market participants—the issuing government, the central bank, regulatory agencies, market intermediaries, end investors, and any SROs.

Some of the more important areas where the legal framework will affect the development of government securities markets include (i) defining the exact parameters under which fiscal budgeting processes will be linked to government securities issuance, (ii) limiting issuance through debt ceilings or other devices such as sinking funds, and (iii) defining the legal properties of government securities and their use as collateral in transactions such as repos. Governance arrangements for appropriate regulatory authorities and proper definition of their enforcement powers also constitute part of this effort.

At another level, the legal framework must define the rights and obligations of parties to debt contracts in the primary and secondary markets for issuers, investors, and intermediaries. This definition should include (i) minimum guidelines for disclosure of material information, (ii) liability for entities involved in distributing securities and for entities handling third-party investment accounts, and (iii) vehicles to allow proper legal recourse against mutual funds, pension funds, and even the government as an issuer. Investment regulations need to permit sufficient flexibility for investors, yet create adequate safeguards for prudent operations and for the safeguarding of fiduciary obligations, as in the case of pensions.

1.9.2 Elements of Legal Framework for Government Securities Markets

Authority for the government to borrow in the domestic market needs to be established as the first fundamental aspect of market development. The law in some countries grants the capacity to borrow directly to the legislature; others in government are granted the authority, subject to approval from the legislature. The law may impose prior legislative authorization on the issuance of government securities as a check against abuse of the borrowing authority. As part of its authority, the government should also have the legal ability to delegate borrowing authority and debt management policy to the public agency or department that carries out the debt management work. Some countries have imposed strict limitations on the use of government funding of debt, which in some cases involves an outright ban on domestic borrowing by the government.

Interlinked with the authority to borrow is the need for legislative control of the level of government indebtedness and, therefore, possibly, the need for explicit ceilings for government securities issuance to avoid abuse of the borrowing authority. Limitations on the government's authority to issue debt securities can be established in legislation with a specific ceiling on total debt or minimal net increment limit or by requiring specific approval of the issuance by the legislature. Even without explicit or implicit ceilings for government securities issuance, general oversight by the legislature of the borrowing will be an important element of the legal framework. It is, however, important to strike an appropriate balance between the need for control and the flexibility and discretion of the issuing authority. Loan-by-loan authorization will clearly not facilitate an efficient operation for the government as an issuer and as debt manager. It will constrain, for example, the development of fungible instruments and benchmark issues as instruments for government debt management.

The general rules governing the government's behavior in the primary market are another important aspect of the legal framework. Governments are usually exempt from the disclosure requirements with which private sector securities issuers must comply. This does not mean, however, that governments should be opaque in their operations. An indication of the information market participants seek pertaining to the creditworthiness of an issuer is provided in a general form through the government budgets. The behavior of governments in the primary market, furthermore, should be

governed by well-established principles of generality, equality, and publicity. Unlike a private sector company, governments cannot act with contractual freedom and choose, for example, counterparties arbitrarily. Rather, the government should establish a common set of rules to ensure equal access and fair competition. This principle does not exclude the use of primary dealers, but requires the selection to be objective and fair. The principle of publicity requires the government to be open about its future securities transactions. Timely public announcements of the government's auction calendar, including amounts of issues and their maturities, and tender or auction procedures, are also necessary for market awareness and assessment of the government's market activities.

1.9.3 Market Regulation of Government Securities Markets

In most countries, government securities trade in the secondary market along with all other securities and are therefore subject to secondary market regulation. Effective secondary market regulation is necessary to support a viable secondary market. Since government securities are often defined as “exempt securities” (that is, exempt from regular prospectus requirements), it is important to ensure that this status does not undermine the integrity of the secondary market. Effective regulation of the secondary market should include (i) regulation of market intermediaries, (ii) market conduct regulation (including trading rules) and market surveillance, and (iii) transparency requirements, which will vary according to the choice of market structure.

The regulatory framework for securities markets, including government securities markets, is usually seen as having three distinct objectives—assurance of fair, efficient, and transparent markets; minimization of systemic risk; and protection for investors and consumers of financial services.¹⁹ In ensuring fair, efficient, and transparent markets, supervisors aim primarily at preventing improper trading practices such as market manipulation and insider trading. A requirement that information potentially affecting prices be released expeditiously, and to all market participants simultaneously, is also important in ensuring fair and transparent markets. Requiring intermediaries to comply with minimum capital requirements

19. See IOSCO 1998.

and internal control procedures reduces systemic risk. Lack of development and standards in this area have led to substantial problems and at times even set back the development of such markets for many years. Also important for systemic risk are reliable systems for settlement of cash and securities transactions. By depending on disclosure for investor protection, supervisors are relying on investors to protect their own interests. Supervision of market intermediaries and the use of “fit and proper” rules for management in securities firms also provide investor protection.²⁰

The regulatory structure of securities markets is, in many cases, built around SROs, such as exchanges and securities dealers associations, as a supplement to the government regulatory authorities.²¹ SROs typically provide the first layer of regulatory oversight, guiding their members to meet the objectives of regulation. SROs ensure adequate flexibility in the regulation and oversight of securities markets, especially in cases where the introduction of new products and practices has come too rapidly for the traditional supervisory structure. The use of SROs does not imply that a public supervisor is redundant. Public supervision or oversight of SROs is needed to prevent conflicts of interest that might impair the supervisory regime.

Since government securities are traded in only a few cases on organized exchanges, the use of SROs for regulation of the bond market has been limited. It is more common to have market oversight and regulation provided directly by the securities market regulator, the central bank, or, in cases where primary dealers are used, by the minister of finance or the public debt management agency. The authorities also often regulate the relationship between intermediaries and their clients, mainly to ensure best execution of trades. Where there is more than one authority exercising supervision over institutions participating in the market, the actions of these authorities

20. In some countries, notably in the EU, investors are ultimately protected within certain limits by an investor compensation scheme. Such a scheme is usually funded by market participants and protects against fraud and negligence by, for example, returning an investor's security that cannot be produced by a bankrupt securities firm. There is normally no protection against market risk.

21. The regulatory responsibilities of government securities markets often are assigned to more than one government agency. Thus in some countries the supervision over a primary dealers' arrangement and the issuance process (auctions, for example) is handled by the Treasury or jointly by the Treasury and the central bank, the regulation of the secondary market by a security regulator (which is often a separate government agency), and the oversight of the settlement arrangements by the central bank.

must be coordinated in order to maintain a fair and competitive environment. In countries where there is cross-border transaction activity in the government securities market, there will be a presence of foreign financial institutions in the domestic market and/or the presence of domestic institutions in foreign markets. This international aspect will require cooperation between domestic authorities and their foreign counterparts.

Capital rules, margin requirements, risk controls, and trading practice regulations applied to intermediaries are likely to grow in importance with technological advances. Nonuniformity of capital requirements within the same class of securities market participants, such as brokers or dealers, can increase both systemic and credit risk for individual market participants. In contrast, nonuniformity of capital requirements across different classes of market participants can be an important factor in creating incentives for self-regulation. If members of securities depository and settlement corporations are required to hold higher levels of capital than nonmembers, the members will have greater incentives to monitor those financial institutions with lower capital requirements. Capital requirements must take into account liquidity, price, and credit risk for assets in the firm's own portfolio, as well as for assets managed on behalf of third parties. Leverage requirements, if imposed, must take account of differing definitions of leverage.

Emerging-market countries may need to permit the operation of private proprietary trading systems, entry of foreign trading systems, or ATs alongside traditional exchanges that trade government securities. Authorities will need to examine how they would respond to potential demutualization of existing exchanges and the possible implications of this for self-regulatory incentives and the integrity of the market for trading government securities. An increasing issuance and trading of government securities by electronic means will require changes in investor-protection statutes and regulations to control systemic risk in settlement and security account arrangements, in insider dealing, and in the role of SROs. As concentration of positions within and across exchanges or across countries becomes more prevalent, risk analysis will become increasingly important.

Legislation and regulation about the kinds of information that those most intimately involved in government securities markets are required to disclose are also essential to develop and maintain active and sound government securities markets. These rules relate to analysts and their responsibilities, public disclosure by broker firms and by the government as an

issuer, credit-rating agencies, and many forms of self-regulatory associations, such as organizations of accountants and auditors. Providing incentives for the preparation and disclosure of high-quality information, and breaking the hold of banks as monopolizers/controllers of information, is important for market development.²²

1.10 Taxation Policy and Development of Government Securities Markets

Taxation of financial instruments has significant implications for financial market development. Taxation of capital gains and income from securities affects consumption, saving and investment decisions, influencing the general level of savings, the demand for financial assets, and investment. It also strongly affects the allocation of savings. Poor tax policies can be a major impediment to a properly functioning financial market. An inappropriate tax system hampers the emergence of new financial instruments such as mutual funds and asset-backed securities. With regard to the implications of tax policy for the development of government securities markets, policymakers need to focus on some important issues. What is the appropriate balance between fiscal objectives and the development of the capital market? Should tax incentives be used to promote market development (see Chapter 10)?

In developing countries, tax authorities often skew the tax regime to take advantage of a relatively well-institutionalized financial sector from which revenue can be raised easily. Authorities entrusted with the development of a deep and liquid capital market, on the other hand, often favor tax incentives for financial instruments as a way to encourage market development. Considering the importance of financial markets in the development of the national economy, it is important to adopt tax policies that are compatible with financial market development while not seriously compromising principles of good taxation. Good communication between those responsible for tax and financial policies and awareness by officials of how new financial instruments work will assist in developing a balanced tax system.

22. See Villar, Diaz de Leon, and Hubert (forthcoming).

Both developed and developing countries have employed various tax incentives for certain financial assets in an attempt to stimulate national savings. Contributions to pension plans and to retirement savings plans through targeted savings promotion plans (such as individual retirement accounts in the United States and the *plan populaire d'épargne* in France) are tax deductible or tax exempt in many countries. Saving through life insurance also receives special tax treatment in many countries. Tax incentives have strong impacts on portfolio composition. Tax incentives used with care can therefore be effective in achieving certain economic goals, such as the promotion of a long-term bond market. This is especially meaningful for developing countries where investors' time horizons are short and short-term securities dominate the fixed-income securities market.

Tax incentives have, however, been criticized.²³ They distort relative prices and lead to inefficient resource allocation. Moreover, they are unfair because nonpreferred sectors must bear heavier tax burdens to compensate for lost government revenue, they undermine administrative simplicity, and they require substantial monitoring costs. If tax incentives are used in order to minimize the associated indirect costs, it is important to manage the incentives in a consistent manner. A sunset clause for tax incentives can be a useful device to prevent the proliferation and perpetuation of such tax benefits, since it forces policymakers to periodically review the efficacy of these incentives.

1.11 Linkages of Government Securities Markets to Subnational and Private Sector Bond Markets

In developing subnational and private sector bond markets, policymakers face a number of questions. What actions should the government take to develop a common infrastructure for a government, subnational, and private sector securities settlement system? What can be done to eliminate or minimize the risk of moral hazard from subnational entities issuing bonds? Should tax incentives be used to promote subnational and private sector bond markets? What should be the role of credit agencies for the private sector securities market? What should be done to strengthen

23. Shah (1995) provides an extensive discussion of the pros and cons of tax incentives.

investor protection arrangements in the private sector bond market (see Chapters 11 and 12)?

The government issues bonds and Treasury bills in the domestic capital market to fund budget deficits and manage its short-term liquidity needs. It usually does this in a nonopportunistic way, whether rates are low or high, with the aim of minimizing cost over the long run. In contrast, many subnational (provinces, states, municipalities, and state enterprises) and private sector issuers are opportunistic issuers that often do not have a recurrent financing need. They can, accordingly, look for special opportunities in the market by issuing bonds when interest rates are low or by targeting specific segments with high investor demand. For these issuers, timing and flexibility in the design of bonds are essential.²⁴

The subnational and private sector bond markets in many countries have developed a wide range of financial instruments. Major groups of issuers have been mortgage credit institutions, subnational entities, and private sector companies.

The increasing role of subnational entities reflects the trend of decentralization of some governmental functions, particularly for infrastructure investment, from the central government to smaller political jurisdictions. In general, the greater the financial autonomy of subnational units of government, the greater the likelihood that a subnational securities market could develop.

Even with financial autonomy of a subnational unit, however, a number of concerns arise in developing subnational bond markets. The overarching problem of subnational securities issuers is that they often lead to expectations that the central government might assume the liabilities of a distressed subnational borrower, resulting in a moral hazard problem. In addition, to the extent that there is no assurance that the central government will assume the debt obligations of a subnational entity, the creditworthiness status that surrounds such debt obligations has implications for the development of subnational bond markets. The ability of market participants to assess the likelihood of the central government's response to a subnational entity's debt-servicing difficulties for different

24. Some governments employ a strategy in which some investor groups are targeted with specific issues designed with this group in mind. For some smaller countries opportunistic issuance is also the primary form of borrowing in foreign markets.

subnational bond issues will determine the prospects of subnational markets to take hold.

In addition, the development of a subnational securities market may fragment the overall government securities market. Moreover, lack of market transparency, weakness of market governance, and weak capacity for financial management of subnational entities impede the development of subnational bond markets. The extent to which a subnational securities market is desirable is ultimately a question of whether the benefits of the greater financial autonomy resulting from decentralization are outweighed by the inefficiencies resulting from moral hazard and market fragmentation.

The financial and nonfinancial corporate bond market has produced a variety of bonds with special characteristics targeted at special investor groups or the specific cash flow needs of the issuer. Most corporate bonds have maturities of less than 10 years. Some are issued with different types of embedded options and/or interest payment schedules.

Mortgage bonds have typically been issued as nominal bonds with less than 10 years maturity or, if longer, as adjustable rate or variable rate bonds. Exceptions are the U.S. and Danish mortgage markets, where 20- to 30-year fixed-interest mortgage bonds are common. These bonds are issued with embedded options giving the borrower the right to repay the loan at par before maturity.²⁵ One important characteristic of mortgage bonds is their high credit quality. They are secured through special regulation that allows mortgages to be used as indirect or direct collateral. Other types of collateralized bonds have also played an important role in the development of the private sector bond market.

Developing a government securities market supports the development of bond markets for the subnational and corporate sectors. Providing a relatively risk-free asset such as a government bond establishes a reference

25. Long-term (10 to 30 years) fixed-interest mortgage bonds are typically issued with embedded options to help protect borrowers against interest rate risk. Embedded options make these mortgage bonds difficult to price. Advanced financial models are used to strip the bonds of their options to arrive at a so-called option-adjusted spread (OAS). Derived yields on the bonds remain model specific, while duration is highly dependent on market yields. These complications make mortgage bonds imperfect substitutes for government bonds as long-term benchmarks even if they are considered to be of high credit quality.

for pricing subnational and corporate bonds, commercial paper, or any kind of private sector fixed-income security. Because of their usually large funding needs, governments seem to be the most suitable providers of a benchmark yield.²⁶ A benchmark function could also be provided by some private sector-type bonds or by interest rate swaps. Government securities also are used as a hedging tool for interest rate risk, essential for intermediaries, and they serve as underlying assets and collateral for repo, futures, and options markets.

Basic credit information on bond issuers and credit ratings and information provided by the issuing entity are major elements in the information infrastructure needed to develop subnational and private sector bond markets. In addition, the government can help raise standards for many self-regulatory organizations, particularly in auditing and accounting, by requiring auditors to post bonds or by setting minimum standards for accounting, including proper mark-to-market rules. Technology and the Internet may also play a role in the information infrastructure by facilitating the dissemination of pricing information from all potential providers of a financial service and relevant financial information about particular new issues and the issuers.

Rating agency efforts to require ratings of private sector bonds or of the issuers have often been unsuccessful. Establishment of rating agencies in small countries has been difficult and has often favored issuers more than investors. With advances in technology and telecommunications, the lower up-front and operating costs of establishing a rating agency should facilitate rating agency entry into smaller markets. In addition, some of the large international credit agencies have established working relationships with some national credit agencies, allowing the pooling of expertise of the large international agencies with knowledge of the country-specific circumstances.

26. The need for a benchmark reference is why some government authorities, such as those in Hong Kong, China, which run government budget surpluses and thus do not need to issue bonds, developed a government bond market as a benchmark for their large mortgage market and the nascent corporate bond market. In some markets, however, other nonopportunistic issuers have at various times provided benchmarks. This is particularly the case in countries with a history of financing mortgage loans through issuance of mortgage bonds.

1.12 Sequencing Development of Securities Markets

Sequencing the different steps in the development of government securities markets is largely dependent on country-specific circumstances. The size of the economy, the level of competition in, and sophistication of, the financial sector, and the different types of investors present in the country and their appetite for fixed-income financial instruments are all important factors determining not only the appropriate sequencing of initiatives to develop a securities market, but also whether the public sector should be actively engaged in the development of different market aspects. However, if the basic prerequisites for developing securities markets are in place (see Section 1.3 above), there are initiatives to which priority should be given at different points in time.

At the nascent stages of market development, priority should be given to strengthen and develop the short end of the market. This requires initiatives related to developing an active money market with market-determined price setting. In most cases progress in this area cannot be achieved without the active participation of the central bank. Supporting the development of an effective repo market is a key priority at this stage. Improving auction procedures; transparency in government securities operations; and, in some cases, the instrument design, especially standardization of issues, are also important priority areas early in the process. Greater competition between intermediaries should also be encouraged; efforts in this area require long-term and multiple initiatives if competition is weak. The key to success at this emerging stage, however, is a clear and unequivocal move away from the use of funding below market rates through captive investor sources. This move might require the use of a legal framework giving the responsible agencies (Ministry of Finance or the central bank) the mandate and the institutional capacity to start the process through a clear borrowing authority. At this stage, where the focus is on fundamental initiatives related to market infrastructure, the more advanced features of a securities market, such as electronic trading mechanisms and advanced securities depositories and settlement procedures, need not be present for the market to develop. The main focus in the area of market infrastructure should initially be on simple, secure solutions capable of handling the limited number of daily transactions expected.

Common pitfalls at this stage in market development are related to the government's commitment to the reform process. Credibility can easily be lost at this point in the process if the government occasionally resorts to

below-market-rate financing. Failure by the central bank to implement reforms of the monetary policy regime by, for example, not accepting some sort of interest rate flexibility can also set the developmental process back. Another common pitfall is to focus attention on more technical issues, such as whether to use single versus multiple price auctions, instead of dealing first with such fundamental issues as, for instance, the lack of competition among bidders.

Once a solid basis for a well-functioning, short-term market has been set, the next goal is to move from short- to long-term funding instruments. One option would be to slowly start issuing fixed-rate (nominal) government securities with longer maturities. Alternatively, the government could issue relatively long maturity but indexed (either to prices, currency, or short-term interest rates) securities. Both of these strategies and combinations have been used successfully.

To be sustainable in the long run, however, the move from short- to long-term funding instruments requires initiatives in multiple areas as the market fundamentally changes with this move. The development of an investor base with a long-time horizon—such as for institutional investors—takes on new urgency. Since actions in this area have a long gestation period, other initiatives are needed to bridge the divide. The development of a repo market can help at this stage, as it will allow short-term investors to invest in longer-term instruments without being afraid of not being able to sell the securities when the money is needed. In some cases this has been especially important for the retail investor segment of the market. Mutual funds and investment trust companies (ITCs) can quickly channel retail demand to the short- and medium-term segment of the market and are consequently important entities to develop early on. The main vehicle generating liquidity, however, should be a secondary market, where investors with a short-time horizon are able to sell longer-term securities before expiration. Market regulation and market infrastructure, including development of efficient market intermediaries, become priority areas at this stage, as the integrity of the secondary market and its participants is an important element in creating investor confidence in the market. As volume increases so does the importance of a more sophisticated infrastructure for securities settlement, with dematerialized instruments settled with delivery versus payment.

A frequent problem at this level of market development entails unrealistic expectations as to the pricing of longer-term bonds. Until credibility

has been attained, the government may have to pay a premium on its borrowing. At the same time, the higher costs are offset by a reduction in risk, which is a consideration that needs to be taken into account when the developmental approach is evaluated. A strong debt management capacity with a focus on risk management can help in the formulation of the optimal trade-off between cost and risk and thereby help create political consensus for the market development effort. Another issue that needs careful examination is the use of primary dealers. Market participants will often press for this kind of arrangement at this point in the developmental process or even before. The issuer needs, however, to balance the pros of getting a small group of committed players in the government securities market against the cons of reduced market competition. Without fundamental change in the incentives to distribute securities to end investors and adequate (potential) competition from, for example, foreign brokers/banks, the benefits of restricting access to the primary market could be small.

At this point in the developmental process, an active secondary market should provide the basis for a further standardization of the bonds on the market. Issues with the same maturity are now fully fungible, and a further increase in the maturity of the securities becomes feasible. Creating a number of benchmark bonds across the yield curve should then become the goal. As the government increases the maturity of the bonds, it lowers the interest rate risk on its debt portfolio. At the same time, the interest rate risk for investors rises. A priority at this point should be ensuring the existence of a proper risk management framework in the systemically important financial institutions that invest in government bonds. Sound development of more sophisticated auxiliary markets that can allow for better risk management, such as swap, and, ultimately, futures markets, will also be relevant at this level of market development.

Countries looking for a rapid transition through the different stages must not only prioritize between different initiatives that will advance the market to a next stage, but also consider the time horizon of different initiatives. For example, even though pension and life insurance reform should not be seen as fundamental to the early stages of government securities market development, starting the process of pension and insurance reform might be prudent because of the time it takes to feel the positive impact of such reforms on the capital market. Taking concurrent initiatives with short- and long-term effects, therefore, needs to be considered. Initiatives with immediate effect would include standardization of issues, change in

auction procedures and schedules, and the reduction and eventual elimination of reliance on captive sources of funding. Medium-term initiatives include upgraded trading facilities, settlement systems, securities depositories, and market regulation. Longer-term initiatives are mostly related to the development of an institutional investor base.

The resources available in both the public and private sectors set limits for this kind of sequenced market development. A needs assessment early in the process will be essential to devise an optimal allocation of the scarce resources among different initiative possibilities.

ANNEX 1.A

Some Elements of a Macroeconomic Framework

Development of a government securities market will be more successful when a consistent macroeconomic policy framework involving fiscal, monetary, exchange rate, and capital account policies is in place. Achieving this goal involves a complex and dynamic process.

Fiscal policy. An institutional and legal framework that can ensure proper *economic governance* and a record of accomplishment of fiscal prudence will influence investor perceptions of default risk and help the government build credibility in its ability to honor long-term obligations. Without such credibility, the development of a longer-term bond market will be more difficult and costly. For example, an enforceable fiscal responsibility law, such as that developed in New Zealand and, more recently, in Argentina and Brazil, is one way to help create incentives for proper economic governance. The government securities markets can become a particularly effective means to exert further fiscal discipline, since the authorities must react credibly by cutting expenditures or raising taxes if debt service rises in response to permanent shocks to the economy.

A reasonably robust *fiscal regime* is another important element of a credible fiscal policy. Such a regime should have the capacity to collect direct and indirect tax revenues, an effective budgeting and expenditure control system, and an ability to take into account large contingent liabilities, including public pensions, health/housing or agriculture-related liabilities, government guarantees, and any central bank deficits covered by the government. A system for tax collection allowing for efficient functioning of financial markets and financial intermediaries is especially important. Lack of such capacity can lead to the use of convenient tax and implicit tax handles offered by the financial system, including those levied on financial transactions such as sales of securities.

Interaction between fiscal policy and *debt management* is very important in building overall credibility. Governments must establish a sound and prudent debt management operation and a policy of broad market access and transparency so that markets can count on substantial predictability in government actions. More broadly, the authorities should establish a sound framework for debt management and asset liability management.²⁷

27. See IMF and World Bank 2000 and World Bank (forthcoming).

Monetary policy. The existence of an independent, well-managed central bank with a credible nominal anchor, such as an inflation target, can also play an important role in counterbalancing fiscal excesses and improving economic governance. Achieving a sufficient level of consistency in policy formulation and administrative coordination between monetary and fiscal authorities is essential to developing a government securities market. The two authorities have differing policy objectives. The central bank's principal focus is usually on maintaining price stability and financial system soundness, while the Treasury's principal long-term focus is to minimize funding costs of the government, taking into account the risk associated with managing the government debt. The respective objectives of the two authorities must be clearly defined and coordinated in day-to-day operations, particularly since fluctuations in Treasury cash balances at the central bank have a direct impact on reserve or base money that may need to be offset through open market operations. Even the timing and nature of announced monetary and fiscal policies will have to be carefully considered in the context of how they affect expectations of market participants and the credibility of the authorities. The monetary authority cannot, over the long run, contain inflationary expectations if the government is tempted to inflate away a fiscal problem and obtain financing through forced holdings of government securities by captive sources of funding. A noncredible monetary policy will also raise investor perceptions of inflation or devaluation risk, thereby adversely influencing government funding costs and impeding the development of a government securities market. Some countries have relied on a coordination committee with representation from both the Treasury and the central bank to ensure coordination. Others have established the clear-cut independence of the central bank to manage monetary policy, but, at the same time, have promoted coordination at the operating level to ensure that Treasury operations are consistent with central bank objectives.

Exchange rate and capital account policies. A credible exchange rate regime is important, especially for governments seeking foreign investment in the domestic government securities markets. To help ensure this, fiscal, monetary, capital account, and debt management policies will need to be viewed as sustainable and consistent by both local and foreign investors. If exchange rate regimes are perceived to be unsustainable, the exchange rate risk premium will rise rapidly, accompanied by the related costs of government securities issuance and the inability of the government to raise funds beyond very short maturities.

Capital account deregulation and its timing need to be carefully considered regardless of the advantages of having a convertible currency or attracting foreign investors. While unrestricted capital movements can serve as an encouragement for foreign participation in domestic government securities markets, such movements also expose a country to potentially destabilizing capital inflows and outflows that can exert undesirable pressures and shocks on the economy. The vulnerability to capital outflows—particularly through commercial banks' cutting credit lines or reducing exposure by the use of derivatives as well as capital account vulnerabilities more generally—require careful analysis at the time the introduction of a government securities market is contemplated. When levels of short-term government securities are high and significant leverage from the different participants (public or private) is possible, rapid capital account and exchange rate liberalization can lead to financial crises. Better macroeconomic management and more effective monitoring and management of foreign capital flows are often necessary for capital account and exchange rate liberalization to be successful.

ANNEX 1.B

Some Elements of Financial Sector Reform

There are four fundamental areas of financial sector reform that usually need particular attention in support of government securities development: (i) transparency and information infrastructure, (ii) banking soundness, (iii) portfolio restrictions and interest rate liberalization, and (iv) entry and exit policies.

Transparency and information infrastructure. Proper *auditing, accounting, and creditor information* are important elements of the basic financial market infrastructure. Without proper disclosure, domestic and foreign investors will be reluctant to deal with domestic financial institutions, and the general ability of investors to provide market discipline will be limited.

Banking soundness: prudential regulations and supervision and safety net. It is essential that a sound banking system be subject to *prudential regulations* (including capital adequacy, lending standards, proper asset classification, income recognition, and reserving policies) that meet or approach international standards and provide for competent supervision and adequate enforcement capacity.²⁸ A *safety net* that provides (temporary) assistance (usually with collateral) to financial institutions that are solvent but face temporary liquidity problems will prevent the emergence of systemic financial problems. An unsound banking environment will complicate development of a government securities market because important related markets, such as IDB and repo markets, are unlikely to function properly in an unsound and unstable financial environment. An unsound banking environment will also impair investor confidence and hamper secondary market activities and development of new instruments, such as mutual funds administered by banks.

Portfolio restrictions and interest rate liberalization. An area of reform with important implications for the development of local government securities markets is *liberalization of the balance sheet of banks*. Liberalization includes removal of forced investments or credit ceilings, other lending/investment portfolio restrictions, and interest rate controls for liabilities and assets. To lessen the prospect of a credit boom that could lead to

28. See Caprio, Atiyas, and Hanson 1993.

excessive leverage of nonfinancial corporations or banks, such liberalization should be accompanied by reforms to improve loan foreclosure, corporate bankruptcy and reorganization processes, and prudential regulations. There is also a need to review the *structure of reserve requirements and taxation* to determine whether such policies impede the growth of important markets essential for the development of government securities markets, including money and repurchase agreement markets. Some countries that have differentiated reserve requirements have imposed new requirements on previously acquired assets. The same is true for taxes on repos. These types of policies can seriously hinder market development.

Competition, entry, and exit. Among the more important areas of reform in emerging markets are policies regarding *entry and exit of financial service providers*. Entry, subject to fit and proper tests and the need to maintain franchise value, should be encouraged. Since domestic banks often play a predominant role in government securities markets in emerging economies, new entrants can stimulate competition and knowledge transfer, especially in the case of foreign-affiliated institutions. Greater competition would limit the ability of banks acting as dealers to exploit their buying, that is, monopsony, power in auctions of government securities. It would also help stimulate a move toward greater disintermediation through development of mutual funds and direct access for nonfinancial corporations to tap the bond market. New entrants can also raise overall liquidity in the markets and information standards. Foreign entrants present an opportunity to import many useful financial services, leading to adopting and adapting standards and procedures for supervision and regulation of banks that are used in other countries. Given new technology, the benefits of liberalizing entry through cross-border provision of services have increased. Such remote access to the market could include access, subject to appropriate licensing provisions for e-trading by virtual brokers, by foreign entities wanting to participate in domestic securities markets via the Internet. New entrants can be important catalysts for bond market development, as illustrated by the experiences of such countries as Argentina, New Zealand, and Panama.

Policies in the area of failure resolution are also important for government securities market development. If the exit of weak or failing institutions is not timely, there can be greater scope for a bidding up of interest rates in the interbank market. The incentive to invest in high-return deposits issued by distressed banks can become pervasive if the safety net is

defined or assumed so that investors have confidence they will be, if necessary, paid in full through the safety net provisions on all liabilities. This can have a negative effect on the demand for government securities, which are usually regarded as the only domestic risk-free asset class.

ANNEX 1.C

Key Strategic Steps in Government Securities Market Development

Link to Money Markets and Monetary Policy Operations

(see Chapter 2, Money Markets and Monetary Policy Operations)

- Establish an adequate forecasting facility in the Treasury (surveillance of receipts, expenditures, and overall forecast).
- Improve management of government cash flows to enable better liquidity management by the central bank.
- Design central bank operations (liquidity management and accommodation policy), keeping in mind the need to stimulate interbank transactions.
- Phase out direct government control over deposits, interest rates, and lending.
- Ensure and make transparent the issuance of securities for both monetary and fiscal policy purposes.

Issuance Strategy and Market Access

(see Chapter 3, A Government Debt Issuance Strategy and Debt Management Framework; Chapter 4, Developing Benchmark Issues; and Chapter 5, Developing a Primary Market for Government Securities)

Issuance Strategy and Debt Management

- Establish a strong commitment to move toward market-based government financing through the use of marketable instruments sold at market price, dismantling of captive sources of funding, and a proactive approach to market development.
- Define and adhere to principles of broad market access and transparency in government funding operations.
- Define clear objectives and a debt management strategy that involves market finance and introduces risk management objectives.
- Develop a sound overall risk management framework.

- Build a sound institutional framework for debt management with appropriate governance structures. The responsibilities of the debt managers should be explicitly stated; the organization should be endowed with adequate operational capacity, including the ability to attract and retain professional staff in the debt management functions; and a proper incentive framework ensuring accountability of managers should be put into place.

Primary Market Structure

- Establish efficient distribution channels for securities (auctions, underwriters) in light of the investor base, the state of financial system development, and the structure of intermediaries.
- Identify how technology can be used to create new channels for securities distribution.

Instruments and Yield Curve

- Use standardized simple instruments with conventional maturities.
- Develop the Treasury bill market.
- For large issuers, priority should be given to developing fungible issues that could be turned into liquid benchmarks.
- Establish buy-backs and reopening programs.

Investor Base

(see Chapter 6, Developing the Investor Base for Government Securities)

- Release captive sources of funding government securities from obligations to purchase instruments at below-market prices.
- Reform the contractual savings system and insurance sector to allow participation of private sector nonbank institutions, permit funded pension schemes, and gradually move from a quantitative, restricted investment framework to a “prudent man rule” framework for investment management.
- For mutual funds, ensure that prospectuses provide clear and accurate representations of the performance of their business, assets are marked to market, and fees are properly disclosed.

- Improve information and actuarial disclosure requirements for institutional investors.
- Review laws and regulations applicable to collective investment vehicles in order to maintain proper separation between asset management and investment banking.
- Relate insurance and pension fund reforms to building government securities markets.
- Improve supervision and regulation of financial institutions.
- Examine capital account restrictions and consider liberalization, depending on overall macroeconomic and financial sector conditions.
- Introduce certification standards for investment advisors.
- Evaluate the benefits of encouraging foreign investors, such as eliminating withholding taxes on their investments.
- Promote investment funds specializing in government securities.
- Promote retail investor interests through new distribution channels, including mutual funds and automated trading formats.

Secondary Markets

(see Chapter 7, Developing Secondary Market Structures for Government Securities)

- Promote repo and money markets in order to improve liquidity in the government securities market.
- Promote prudent regulations governing trading practices.
- Promote a system of market makers, where appropriate, through primary dealers.
- Facilitate the emergence of interdealer brokers and organized trading facilities.
- Introduce borrowing and lending of securities and short sales, with proper regulation.
- Eliminate taxes impeding securities transactions.
- Develop automated trading systems to encourage access by onshore and offshore investors (connections to EUROCLEAR, Clearstream).
- Evaluate alternatives for gradually introducing trading in derivative instruments, as well as the preferred venue (exchange or OTC) and overall risk management guidelines. Liberalization in this area must be undertaken cautiously.

- Promote development of a trading culture in the market through professional associations, primary dealers, entry of foreign institutions, and codes of behavior.

Securities Settlement

(see Chapter 8, Developing a Government Securities Settlement Structure)

- Establish payment and settlement procedures for cash and securities, including automated (dematerialized) accounts for securities.
- Develop reliable depository arrangements for recording ownership and settlement of securities.
- Establish a securities settlement system with DVP, allowing for same-day settlement.

Legal and Regulatory Framework

(see Chapter 9, Legal and Regulatory Framework)

- Establish a legal framework and improve enforcement of securities laws and the judicial system.
- Ensure the protection of investors and reduce systemic risk.
- Ensure that markets are fair, efficient, and transparent.
- Set standards for auditing and accounting.
- Strengthen securities supervision and enforcement.
- Strengthen SRO surveillance and risk management processes.

Tax Policy

(see Chapter 10, Development of Government Securities Market and Tax Policy)

- Adopt tax policies that tax earnings on government securities at comparable rates as other taxable income sources.
- Reduce dependence and aim to eliminate securities transaction taxes for government and subnational securities.
- Establish sunset clauses for tax incentives for government, subnational, and private sector securities, and periodically review the efficacy of such incentives.

Linkages to Subnational and Private Sector Bond Markets

(see Chapter 11, Development of Subnational Bond Markets, and Chapter 12, Linkages Between Government and Private Sector Bond Markets)

- Define a proper incentive framework for government securities issuing activities at subnational level and for state-owned enterprises.
- Promote a common infrastructure (settlement system, central securities depository, trading systems).
- Streamline procedures for public issuance of nongovernment securities while ensuring adequate investor protection.
- Abolish restrictions on product design for private sector securities such as caps on coupon rates, use of unsecured bonds, and issuance of floating rate and foreign-exchange-linked bonds.
- Allow underwriter eligibility for new entrants.
- Eliminate transaction taxes, subject to a review of impact on fiscal revenue.
- Develop nongeneral obligation bonds at the subnational level (revenue securitization, project-linked bonds).
- Introduce nonbailout clauses for subnational borrowers through public finance legislation.
- Develop credit information infrastructure, including credit ratings, basic credit information, and related infrastructure.

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