Part 2
Overview and Country Reports

Overview

4 Overview

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I. Introduction

For most of the Asian developing countries (ADCs) included in this study, the single and most defining event in the last decade of the 20th century was undoubtedly the Asian financial crisis, which broke out in July 1997 in Thailand. The crisis subjected the Thai baht to intense exchange market pressure that led to losses in reserves, and forced the authorities to abandon the currency's peg to the US dollar. Contagion effects were soon felt in other countries in the region, especially Indonesia, Malaysia, and Republic of Korea, exposing underlying weaknesses in many of these economies. The prolonged turmoil was even more traumatic coming as it did on the heels of the much-vaunted Asian miracle. Quite clearly, before the crunch, analysts considered that international capital movements, with the removal of barriers impeding globalization, were helping to fuel the region's remarkable progress. However, the haste of capital flight in the wake of the crisis clearly underscores the need to review an otherwise neglected component of these countries' domestic capital markets: the bond market.

II. Rationale for the Development of Bond Markets

The rationale for the development of a bond market rests on the fundamental thesis that long-term productive investment in any economy must be financed by long-term capital, whether in the form of equity or fixed-rate debt instruments. Investment-driven growth, which is typically what is aimed for, cannot be financed by bank deposits and short-term money alone.

The traditional sources of financing in most of the ADCs in this study have been the banking system and, to a lesser extent the equities market, which in some ADCs experienced moments of rapid expansion. However, the reliance on fickle portfolio inflows to finance projects of long gestation (which arrived in droves during the heyday of the Asian

miracle and quickly dried up when the bubble burst) is decidedly risky. Indeed, it has been shown that, while extensive external private capital has played an important role in supporting the development process, particularly in some of the middle-income countries (the so-called Asian tigers), over-dependence on such capital has played havoc on their economies, as illustrated during the Asian financial turmoil from 1997 to 1998, a period marked by a severe drop in private foreign capital inflows.

The International Monetary Fund reported in its 1998 Annual Report that net private capital flows to emerging market economies reached a record of US$240 billion in 1996, with Asia attracting more than 40 percent of the total. However, this dropped steeply to US$174 billion in 1997 as the Asian crisis deepened, with net flows to the developing countries of Asia falling by more than US$60 billion to less than US$40 billion, the lowest inflow since 1992.

The Asian crisis also exposed certain weaknesses in the private sector, particularly with respect to governance, and also in governments, which had failed to carry out some important roles, particularly regulation and supervision. Poor regulation of banking was seen to have contributed to the problem, as domestic banks expanded credit and were deeply exposed to foreign borrowing. Bank lending to the private sector rose between 14 percent and 48 percent a year depending on the country, amounting to 116 percent of GDP in Thailand in 1997, according to a National Bureau of Economic Research working paper.[1] The same paper also noted that, at their peaks during the crisis, non-performing loans (NPLs) as a percentage of total loans were 50 percent in the Republic of Korea, 35 percent in Malaysia, 55 percent in Thailand, and 75 percent in Indonesia. Even in 1996, before the crisis hit, NPLs as a proportion of total lending reached 13 percent in both Thailand and Indonesia, 14 percent in Malaysia, and 8 percent in the Republic of Korea.

Moreover, the liberalization of the Asian financial markets allowed banks easier access to international credit. Banks throughout the region accumulated large amounts of short-term debt denominated in foreign exchange. (For that matter, total external debt of some of the affected countries relative to GDP rose from less than 50 percent to as high as 162.7 percent in the case of Indonesia in 1998.)[2] Not unexpectedly, this resulted in the vulnerability of the banking systems, as banks were exposed

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1. Corsetti, Pesenti, and Roubini, *What Caused the Asian Currency and Financial Crisis?,* cited in *Improving Global Financial Stability,* Draft of Policy Statement of the Research and Policy Committee of the Committee on Economic Development, by Kathleen Cooper et al.

2. Batten, Jonathan and Yun-Hwan Kim (2000).

to short-term foreign exchange debt while funds were being used to finance long-term projects.

The crisis was also seen to have been partly caused/exacerbated by some business practices popularly known as relationship-based banking, which led to borrowings being made on the basis of personal relationships rather than appropriate business evaluations based on cash flow analysis, risk assessment, etc. Another analysis is that the crisis was an example of classic financial panic: a run on banks and mass capital flight, accompanied by speculative attacks on currencies.[3]

Discussions on the causes and repercussions of the Asian financial crisis will probably continue to intrigue analysts worldwide for some time still. Suffice it to say, the turmoil has served as a wake-up call to ADCs to strengthen their domestic capacity by tapping their capital markets, thus balancing out their hitherto heavy reliance on the banking system. Well-developed, efficient capital markets, and particularly bond markets, are important in mobilizing savings, efficiently allocating investible resources, and accelerating economic recovery and growth.

A. The Importance of Developing Bond Markets in Asia

Bond market development is important to ADCs for several reasons.

- First, it helps to diversify the sources of industrial and infrastructure financing. Such financing has been overly dependent on banking institutions, involving a serious term mismatch between their short-term bank borrowing and long-term investments,[4] inflexibility in financing methods, and high risks at the time when banks are reluctant to lend.
- Second, bond financing will alleviate the uncertainties caused by the global bank disintermediation in the postcrisis period. The bank disintermediation takes place largely due to two factors: (i) domestic and foreign banks are extremely cautious about providing new credit to the private sector both in the crisis economies and other ADCs; and (ii) portfolio diversification and aggressive yield-seeking behavior of domestic and globalized investors have increased the opportunity cost of bank deposits.
- Third, the world's highest domestic savings are east and southeast

3. These two contrasting theories are ascribed to Professor Paul Krugman of Massachusetts Institute of Technology and Professor Jeffrey Sachs of Harvard.

4. The best international practices as well as banking laws prescribe that a commercial bank, which is generally entitled to receive only short-term deposits, should not provide any long-term loans.

Asian countries. Development of the bond market will contribute to transforming these savings, which are available mostly in short-term bank deposits, into long-term development resources.

- Fourth, developing the bond market will help ADCs finance huge infrastructure development projects, many of which were canceled, delayed, or reduced in the wake of the crisis.
- Last, it will contribute to enhancing corporate governance standards in ADCs, because bond issuers prefer a higher credit rating to reduce interest rate and issue costs.

B. Role of Government Bond Market in Developing Overall Bond Markets

A treasury securities[5] market can play a critical role in stabilizing government finances, conducting monetary policy, and developing a country's financial and capital markets.

- First, a government may use a treasury securities program to finance a portion of fiscal needs to cover budget deficit or fund-specific national development projects. This is the most common objective of issuing treasury securities both in developing and developed countries. Most ADCs are actively using these securities to this end. However, in some cases, governments use captive investor arrangements to force financial institutions to purchase government bonds, and such financial repression distorts financial institutions' portfolios and interest rate determination.
- Second, the central bank may use short-term treasury bills to conduct open market operations to control money supply and interest rate. The Federal Reserve of the United States is renowned for this operation, but most ADCs have only limited activity in this regard for various reasons, including the lack of properly designed treasury securities, absence of money markets that deal with short-term securities transactions, and the financial authorities' tendency to rely on credit control.
- Third, the most significant role of a treasury securities market is to increase investor confidence in overall bond and financial markets, and provide a risk-free benchmark yield curve.[6] If the domestic treasury securities market functions well under the auspices of the central bank

5. In this paper, treasury securities refer to treasury bills of short-term maturity for less than a year and treasury bonds for a year or longer.

6. In the extreme case, treasury paper is not risk-free. If a government accumulates short- and medium-term debt and the risk of default rises, investors may tend to demand risk premium.

and finance ministry, investors will have confidence in the interest rate level available in the market, which significantly contributes to building their own term structure of rate of returns. Any economy that wants to develop corporate bond and derivative markets must have a satisfactory treasury securities market in place. A benchmark yield curve is usually constructed by market participants from the suite of outstanding treasury securities across a range of maturities. A critical prerequisite is that interest rates are liberalized and determined by market forces. Mathematical interpolation enables construction of a continuous curve that serves as a benchmark for revaluating portfolios and pricing corporate bond issues. Market convention is to add a time-varying spread to the risk-free treasury securities rate to establish the yield rate of a corporate security. This form of construction requires accurate securities prices to be available in a liquid secondary treasury market.

C. Role of Government Policy in the Development of Bond Markets

A sound macroeconomic environment, characterized by prudent fiscal policy, a liberalized and efficient monetary and financial regime, and flexible, market-determined exchange rate policies, is a necessary condition for capital market development. At the Fourth Asia-Pacific Economic Cooperation Finance Ministers meeting held in Manila in April 1997, it was recognized that the state of the macroeconomy is of prime consideration to financial and capital market participants, because it has a bearing on the return to capital. A stable macroeconomic environment is particularly important for the development of markets for long-term debt because buyers of such issues, whose capital is obviously exposed over a long period, need to be assured of adequate returns, expressed in real terms and adjusted for risks. Macroeconomic policies are also important because, with greater financial liberalization and the continuing integration of capital markets, governments have to balance their objectives of growth and stability. They will have to make choices between pursuing independent domestic policy and allowing the foreign exchange rate to seek its own level or fixing the exchange rate and adopting a monetary policy consistent with a fixed exchange rate. Moreover, governments will have to decide on how much monetary policy should accommodate fiscal deficits. Clearly, the choices have not been, and will not be, easy, and the ADCs covered in the study have taken different approaches. These approaches partly explain the state of their bond markets today, while the methods they adopt from hereon will spell the difference between a bond market that grows rapidly or lags behind.

III. Fiscal Policy

Fiscal policy in the ADCs has usually been approached in the context of the size of the government's budget. The planning and the preparation of the budget is generally an exercise shared by the National Planning Agency and the Ministry of Finance. Development budgets normally coincide with a deficit, rather than a surplus, and the manner by which such deficits are funded, particularly where tax revenues are insufficient, determines how the bond market has grown or been held back.

In some countries, the Finance Ministry is the overriding agency, with powers that encompass development planning, ensuring the financing of development expenditures and stabilization of the economy. In other countries, strict demarcation is observed between fiscal and monetary policy, with the Central Bank as an independent (sometimes constitutionally mandated) body. Each of the 10 countries covered by the study has explicitly or implicitly accepted the important role that bond market development plays in the overall development of the capital market, and in the achievement of macroeconomic goals of growth and stability.

Countries whose bond markets have developed the fastest have not necessarily followed the same path. Hong Kong, China, with its policy of positive noninterventionism, for example, fosters a flexible and competitive environment, which allows the private sector much room to grow. It is also an outstanding example of a free market economy with a small public sector. In contrast, the Singapore Government, while following policies of liberalization in the financial sector and observing a free market policy, actively uses fiscal incentives to promote the island city-state as a debt hub in Asia.

The eight other ADCs, while in various stages of deregulation and liberalization, generally have very powerful Finance Ministries, most of them critically responsible for the long-term direction of their economies, in coordination with their planning bodies and/or Central Banks. Some of the Finance Ministries have authority over their Central Banks, while in some the Chairman of the Monetary Board is the Finance Minister (as in Indonesia, until 1999, when a new law gave Bank Indonesia more independence). Alternatively, the Central Bank may be merely one of several statutory bodies under the Finance Ministry (as in Malaysia).

The Philippines, in contrast, has for a long time had a Finance Ministry and Central Bank whose powers and authority are clearly delineated, the Central Bank being a constitutionally mandated independent body. Coordination between fiscal and monetary policy and overall eco-

nomic policy is achieved through various interagency committees. Sri Lanka also appears to draw a line between fiscal authority and the Central Bank. In Taipei,China the Ministry of Finance, which enforces national fiscal policies and budget, appears to act independently of the Central Bank of China, which is the highest monetary body and has complete independence over monetary policy.

Thailand, on the other hand, has a Central Bank mandated to conduct monetary policy to stabilize the fiscal balance, manage government debt, and develop a bond market.

Indonesia and the Republic of Korea have very powerful Finance Ministries that, together with their planning agencies, are responsible for setting the long-term direction of financing for their economies. In Indonesia, the planning and preparation of the budget is conducted by the Ministry of Finance (MOF) with the assistance of the National Planning Agency (BAPPENAS). It also issues guidelines to financial institutions and supervises the capital markets. The MOF is the most powerful institution in the Government. The Minister is the Chairman of the Monetary Board of the Central Bank, and as such is in charge of macroeconomic management. The Board coordinates fiscal, monetary and balance-of-payments policies, and their implementation. In the Republic of Korea, fiscal policy is formulated by the Ministry of Finance and the Economy whose major functions include making decisions on: (i) setting medium- and long-term economic policies; (ii) implementing taxation and related fiscal policies and managing the national Treasury and resources; and (iii) establishing a foreign debt management system.

In the case of Malaysia, economic policy has been guided by its New Economic Policy (1970–1990), and the New Development Policy (1991–2000). Fiscal policy is used as the main tool to allocate resources, the Government providing public goods and services, while allowing market competition. The Finance Ministry has five statutory bodies under it, one of them Bank Negara Malaysia (BNM). BNM is the main regulator of the government securities market, issues guidelines and policies, and sets out standards for trading and settlement procedures.

The People's Republic of China (PRC) remains very centralized, with fiscal policy or the Finance Ministry aimed at channeling resources to the state-owned economy, ensuring equitable income distribution through subsidies, and stabilizing economic fluctuations.

While Hong Kong, China and Singapore, which boast the most developed bond markets among the 10 ADCs, have enjoyed positive fiscal balances, the PRC and the Republic of Korea have long eschewed budgetary deficits (until the Asian crisis made such a policy difficult to maintain). Their bond markets are still at a young stage, however.

On the other hand, middle-level ADCs have been plagued with budgetary deficits, and have resorted to borrowing—from both external and domestic sources—to finance their shortfalls. A quick glance at three of these countries (Malaysia, Sri Lanka, and Philippines), shows that Malaysia's total revenue to GNP ratio averaged close to 26 percent from 1986 to 1990. This dropped to 10.6 percent between 1991 and 1995, and is estimated at 22 percent for 1996 to 2000. In contrast, its total expenditure to GNP ratio for these periods were 33.3 percent, 26.7 percent, and 24.4 percent, respectively. The shortfalls funded by total debt in those periods were, proportionately to GNP, 98.9 percent, 59.5 percent, and 37.3 percent.

For Sri Lanka, for the two years for which data is provided in the study, the figures show that revenue to GDP in 1986 stood at 20.7 percent, falling to 17.3 percent in 1998. Expenditures for these two years showed ratios of 33 percent and 26.4 percent, resulting in a widening deficit. Financing of deficits was done through both foreign and domestic borrowings. Of total financing in 1986, 59 percent came from foreign borrowings, falling to 18.7 percent in 1998, indicating a clear shift to domestic sourcing. Domestic sources rose from 41.6 percent in 1986 to 76.6 percent in 1998. Borrowings came from market, bank, and nonbank sources.

The Philippines reflected overall budget deficits (standing at a ratio of 3.7 percent of GNP at its worst in 1990) until 1994, when a surplus equivalent to close to 1 percent of GNP was attained and maintained till 1996. However, the Asian crisis brought the deficits back to 1.8 percent of GNP in 1998. Net deficit financing was done through domestic and foreign borrowings, in 1990 at a ratio of 1.4 percent of GNP for domestic and 0.4 percent for foreign. There is no particular trend, however. Borrowing sources could simply reflect the political preferences of administrations in power. For example, net domestic borrowings ratios to GNP were negative for 1993, 1994, and 1997, but positive for 1995 and 1996. For net foreign borrowings the ratios are positive for 1990, 1993, 1996, and 1998, but negative for 1994, 1995, and 1997.

In contrast, Singapore has reflected consistent ratios throughout the years, with operating revenues relative to GDP at a range of 20 percent to 21.9 percent, until 1998 and 1999, when the ratios dropped to 18.9 percent and 16.9 percent, respectively. Similarly, operating revenues have generally been at a range of 9.2 percent to 11.7 percent, the figures for 1998 and 1999, being 10.4 percent and 10.7 percent, respectively. Singapore maintained a consistently positive (surplus) ratio to GDP, ranging from 4 percent to 8.9 percent, until 1998 and 1999, when the ratio turned negative to 0.3 percent in 1998 and 3.6 percent for 1999.

For Hong Kong, China, the surpluses have ranged from 1 percent to 6.5 percent of GDP, reflecting outstanding budgetary performances from 1991 to 1998. There was a budget deficit only in 1995/96, when financing for the new airport was undertaken.

IV. Monetary Policy

The choice of monetary policy stance, and monetary policy instruments, is closely linked to financial and capital market/bond market development. When accompanied by efficient regulatory and legal processes, financial liberalization (generally characterized by a market-determined interest rate policy) exerts a positive influence on this development. The role of monetary policy therefore is to mobilize savings, and channel these savings into productive investment by providing a conducive environment, that is, where prices are stable and the inflation rate low, so that real interest rates remain positive over time.

Most of the ADCs in the study have introduced policies to liberalize their interest rates since the mid-1980s. For many of them, the result was more financial deepening, with their financial sectors growing relative to the rest of their economies. Of the mid-developed countries, Republic of Korea, Taipei,China and Thailand have generally experienced the greatest financial expansion, while Indonesia and the Philippines were slightly behind. The PRC, on the other hand, is still very much in an emergent stage. Wherever positive real interest rates were achieved, savings grew substantially relative to the domestic product, and these were channeled into productive investments. On the other hand, the high levels of saving in the PRC were not necessarily due to a move towards market-determined interest rates.

While financial liberalization clearly plays an important role in financial and capital market development, the extent to which monetary policy (i.e. the use of particular indirect monetary policy instruments) can be used effectively, also depends on the level of development of capital and bond markets. Monetary policy affects the quantity of money, and thus affects interest rates. This sequence is generally effected through changes in the rediscount rate, or through open market operations (purchase and sale of government paper), which results in changes in bank reserves, and affects the rates charged or paid by banks. For these instruments to be effective, however, the financial system must have an adequate amount of marketable securities—both from the government and corporate sector, at various maturities (so as to produce a yield curve). In other words, effective monetary policy and bond market developments are closely related.

As financial regimes have become more open and deregulated in the ADCs over recent years, capital inflows have increased tremendously, resulting in challenges to their economies, particularly in the areas of monetary and exchange rate management. Some ADCs opted to keep their exchange rates stable to boost their export sectors, but this led to inflated money supply, which had to be sterilized. Open-market operation (OMO) would have been the best indirect instrument to accomplish any mopping up operations, but the shallowness of the bond markets made this a less-than-efficient tool (and Central Banks often resorted to a more direct method, i.e. changes in reserve requirements).

The role and importance of the Central Banks in the development of the bond market of the 10 ADCs may be viewed in context of their independence from governments. Some have greater independence and have made use of monetary policy instruments with varying levels of influence over their respective financial and capital markets. Greater independence has not always provided assurance of faster development, however.

It is interesting to compare the Central Bank operations of Hong Kong, China and Singapore, the two most developed in terms of bond market development. The Hong Kong Monetary Authority (HKMA), was established only on 1 April 1993, in marked contrast to other economies in the region, some of which have had Central Banks for at least half a century (the Philippines, for example, celebrated 50 years of central banking in 1998). HKMA supervises the banking sector and manages the monetary system, functioning as Hong Kong, China's de facto Central Bank. Its main objective is to maintain the stability of the Hong Kong dollar, which is linked to the US dollar at a fixed exchange rate. In other ADCs, Central Banks are able to respond to economic conditions through the management of money supply, without being subject to the size of their dollar reserve. Hong Kong, China, however, operates a Currency Board system, which means that the Hong Kong notes issued or in circulation are fully backed by the US dollar at a fixed exchange rate. This means Hong Kong, China interest rates are kept in line with those of the US, and HKMA has less freedom to use interest rates as an instrument. This disadvantage was underscored during the Asian crisis, as well as the need for a mature debt market to diversify funding sources and reduce maturity mismatch. HKMA set up a Discount Window whereby banks can borrow overnight funds by entering into repurchase (repo) agreements, using eligible securities for collateral, a facility that ensures efficiency in the payments and settlements system.

The Monetary Authority of Singapore (MAS) formulates and implements monetary policy, which as in Hong Kong, China, is basically focused on the exchange rate rather than on interest rates. It therefore

does not undertake OMO to influence interest rates. The policy on the exchange rate is that it must remain competitive. Singapore eschews the internationalization of its currency, however. Notwithstanding, a repo market has developed, thus allowing the emergence of a more responsive yield curve, providing opportunities for investors and banks. However, the policy of noninternationalization restricts repo transactions with nonbank and nonresident firms. The MAS has exerted concerted efforts to steer Singapore Government Securities as the benchmark for a viable yield curve, in a bid to eventually position the Singapore market as a debt hub in the region.

The other ADCs, excepting the PRC, have Central Banks which have attempted to use indirect monetary policy instruments to develop and strengthen their financial systems and influence the development of their burgeoning capital markets, all with varying degrees of success.

The Philippines' Central Bank was established in 1948. As in other countries, the Department of Finance exercised a major role in the early years, with the Secretary of Finance chairing the Monetary Board of the Central Bank. The objective of economic growth was defined for the Central Bank of the Philippines, until this was revised to merely providing a conducive climate for the pursuit of economic growth in 1972. Then in 1993, as mandated by a new constitution, a new Central Bank Act defined the Bangko Sentral ng Pilipinas (BSP), as the monetary authority of the Philippines, with responsibility for providing policy directions in the areas of money, banking, and credit, with supervisory powers over banks and regulatory authority over nonbanks. Its primary objective was the maintenance of price stability conducive to balanced and sustainable economic growth. The BSP is a key player in a coordinating body for investment and fiscal planning, that includes the Department of Finance, Department of Budget and Management, National Economic Development Authority (NEDA), and the Bureau of Treasury. Officials from these agencies (except NEDA) constitute the Auction Committee for government securities. Up until 1995, when the new law took effect, BSP had a fiscal agency function, which meant that it handled the issuance, servicing, and payment of public sector debt on behalf of the Government. BSP has extensively used OMO and rediscounts as important tools to influence monetary aggregates, and thus interest rates and economic growth or recovery. It has also used the more direct instrument of changes in reserve requirements when more immediate action has been needed. BSP affects the development of the capital market by enhancing the efficiency of financial intermediation, and is one of the four government agencies that, together with four private sector institutions, constitute the Capital Market Development Council.

Monetary policy in Indonesia is implemented by Bank Indonesia (BI), its main thrust being monetary control through managing monetary aggregates and credit. The instruments of choice have been the reserve requirement and OMO, for which BI has utilized its certificates, the SBI and SBPU, which were introduced in 1984 and 1985, respectively. During the crisis, the Central Bank utilized interest rate policy to arrest the slide of the domestic currency, but this met only partial success. This was seen to be due to the lack of independence of the Central Bank, and so, in 1999, BI was given independent status under a new law, which lays down its main mandate as stabilization of the exchange rate and domestic purchasing power, and maintenance of the national payments system. BI thereupon transferred its program loans to several state banks, and will divest its equity holdings in several banks and investment firms. This is similar to the series of reforms that the BSP went through to make it a more independent monetary authority.

The Republic of Korea and Malaysia, which like Indonesia, have powerful finance and planning bodies, profess to have Central Banks mandated to support sound economic development in line with domestic price and exchange rate stability. The Bank of Korea (BOK) targets inflation, using M3 as the intermediate target, and bank reserves as the operating target. At the beginning of the year, BOK announces the direction of monetary policy for the year. This includes monthly announcements of the size of OMO, target value of call rates for the month, and the liquidity situation. Malaysia's monetary policy has moved in accordance with its National Economic Plan, and later, National Development Plan, with selectively restrictive policies implemented in the early 1980s, later moving to a more expansionary stance. However, the objectives of balancing a stable exchange rate and reducing interest rates, particularly in its period of rapid economic growth, was made particularly difficult as interest rates abroad were falling, and the interest rate differentials were attracting substantial (but volatile) foreign funds into Malaysia. This underlying problem became a reality with the onset of the Asian crisis, and the economy was faced with the depreciation of the ringgit, aggravated inflationary pressures, and prolonged regional uncertainties. The policy that was adopted considered the need to address the increasing volatility in the financial market, irrational market behavior, the deterioration of the financial position of the banking and corporate sectors, and the contraction in the economy. Regulations were issued to deflect these, but ensured full convertibility for current account transactions. While Malaysia was roundly criticized for its capital control measures, the country considered these actions necessary for its recovery. Bank Negara Malaysia (BNM) recognizes the importance of developing a viable capital mar-

ket and deepening the market for government securities to ensure the efficacy of OMO as a monetary instrument. BNM is responsible for the issuance of government bonds, being one of the five statutory bodies under the Ministry of Finance. In this aspect, Malaysia differs from other ADCs, notably the Philippines and Indonesia, whose Central Banks are independent.

The Central Bank of Sri Lanka (CBSL) is responsible for monetary policy, and its main objectives are stabilization of the domestic and external value of the rupee and promotion of economic growth. It utilizes both direct and indirect instruments, in recent years having preferred indirect ones such as OMO. It acts as the issue manager of government securities in the domestic market through weekly auctions of Treasury bills. OMO use rates based on yields of T-bills in the primary market, but the underdeveloped state of the secondary market for government securities renders such operations less than effective. The introduction of repo agreements, and reverse repos in 1993 and 1995, however, provided the CBSL with additional instruments to influence interest rates.

As in the Philippines and Indonesia, the Central Bank of China (CBC) is the highest monetary authority in Taipei,China, with complete independence over monetary policies. Its main functions include the regulation of financial conditions, implementation of foreign exchange regulations, examination of financial institutions, issuance of currency, and provision of check clearing services. It also performs fiscal agency functions for the Government, conducting the issuance of government bonds, although this source of funding has not been developed until recently, and is still not very actively utilized. The bank's main policy instruments are OMO, rediscounts, reserve requirements, and selective credit controls. OMO is the most important and flexible monetary tool, and CBC has adopted an intermediate targeting strategy with M2 as its target variable. Since 1979, the New Taiwan (NT) dollar has been allowed to float, but balance of payments constraints inhibit the influence of monetary policy.

The Bank of Thailand (BOT) was established in 1942, and is mandated to conduct monetary policy in accordance with the following policy objectives: (i) to stabilize the country's fiscal balance to consolidate the budget deficit and control debt repayment over the medium-term; (ii) to build a management mechanism to minimize financing cost and avoid bunching of government debt, and (iii) to develop a bond market to promote public and private saving and support debt management. BOT is thus responsible for the maintenance of monetary stability, as well as being a major advisor to government on economic policy. BOT is thus apparently a key player in both fiscal and monetary policy.

Meanwhile, in the People's Republic of China, monetary policy is theoretically conducted by the People's Bank of China (PBC), which supposedly uses instruments such as the interest rate, reserve requirements, and discounting facility. In practice, however, the use of these instruments is inhibited by various restrictions, such as fixed interest rates, credit allocation, and caps on drawings on the Central Bank by the Finance Ministry. Still very much at an embryonic stage, the PBC will still have to learn how to deal with the high volume of savings available in the economy and how to allocate these to efficient uses, hobbled as the Government is with nonperforming state enterprises. The development of the bond market will have to be actively supported and promoted, but the immediate task should be a rationalization of the currently available instruments.

V. Regulatory, Supervisory, and Institutional Framework

Apart from sound macroeconomic, fiscal, and monetary policies and liberalization of the financial sector, transparent and effective regulatory and supervisory systems are crucial for the development of a viable debt market, as well as efficient market institutions to support its growth.

At the APEC Finance Ministers Meeting in 1997,[7] the importance of creating stable and transparent legal and regulatory systems was stressed as a prerequisite for enhancing financial and capital market participation among buyers, sellers, and intermediaries. It was noted that the existing legal framework in many of the APEC countries does not provide satisfactory mechanisms for conflict resolution and dispute settlement among capital market players, or between governments and the major capital market players. This observation was also made at a recent ADB Symposium on Insolvency Law Reforms, held in Manila on 25–28 October 1999.

Likewise, at the recent Philippine Local Debt Conference held on 17 February 2000,[8] among the important building blocks mentioned were those which had to do with custody, accounting, information, legal aspects, and taxes. Existing tax frameworks in a number of the ADCs are such that bonds are subject to discriminatory taxation, vis-à-vis stocks,

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7. ADB, *Promoting Financial and Capital Market Development, Voluntary Principles and Collaborative Initiatives,* A Background Paper on the Recommendations of the APEC Finance and Central Bank Deputies for the Fourth APEC Finance Ministers Meeting, 4–6 April 1997.

8. First Philippine Local Debt Conference Sponsored by Finance Asia and Thomson Ratings Philippines, Manila Peninsula Hotel, 17 February 2000.

and therefore provide little attraction. Disparities in the tax treatment of stocks and bonds, as well as differential tax treatment as between foreign and domestic investors, influence investment choices to the detriment of bond market development. ADCs should thus endeavor to make their legal and tax systems more conducive to capital market development.

Similarly, regulatory systems must be attuned to the economic function of financial and capital markets, i.e. they must recognize the importance of savings mobilization and the allocation of these resources to their most productive uses. Therefore, regulatory regimes should have well-defined objectives and transparent supervisory procedures, capable of dealing effectively with problems related to moral hazard and systemic risk. The Asian crisis exposed only too well the weaknesses of many regulatory systems in the region. It clearly illustrated that sound financial supervision plays a central role in contributing to financial stability and capital market development. Of course, there should be balance in regulation. Too little enforcement of regulations exposes institutions to moral hazard (as was seen in the recent crisis), but overly strict and circuitous regulations results in the inhibition of the emergence of innovative instruments and practices, and reduces the incentive of managers to be responsible for their own institutions, relying instead merely on the Central Bank. In this regard, ADCs should encourage the emergence of a cadre of regulators and supervisors who are highly competent, providing opportunities for professional training and skills development.

The next set of building blocks refers to market infrastructure. Crucial to the enhancement of efficient infrastructure for bond market development are institutions and practices including credible credit rating agencies, well-functioning clearing and settlement systems, bond insurance, provision of liquidity, creation of benchmarks, and the emergence of hedging instruments such as derivatives, as well as the development of a secondary market for bonds, both government and corporate. There are disparities in the prevalence these practices in the 10 ADCs, which is only to be expected, because many of these economies have a very shallow market for government securities, and even less for corporate securities.

High-quality, transparent, timely and internationally accepted reporting and disclosure practices on the financial positions of debt issuers provide investors with confidence. Some developed countries have rigorous disclosure requirements that result in self-regulating financial institutions (which theoretically should lead to less central regulation). Moreover, access to information helps to reduce market imperfections and encourage greater competition and innovation. ADCs should thus try to promote well-organized, up-to-date, and easily accessible databases to help investors make sound and well-informed decisions.

As regards credit rating, it is important to have credible and independent credit rating agencies to further provide assurance to investors, and help them make proper assessment. ADCs should consider ways of encouraging the use of credit ratings, although in recent years some of these countries have already established credit rating agencies.

Well-developed and efficient clearing and settlement systems are also clearly indispensable to the development of capital markets. There is a lot to be desired in the clearing and settlement systems of many ADCs, and it might be appropriate for these member countries to take definitive steps towards facilitating the development of modern clearing and settlement systems to minimize costs and settlement risks.

The development of a credible and market-based yield curve is crucial too. A benchmark yield curve exists when a spectrum of securities of different tenors meets the market yield and liquidity requirements. Generally, the benchmark yield curve is provided by a government security of certain tenor that is so liquid that it carries a market-determined yield at all times. The ADCs, except perhaps Hong Kong, China, have not yet developed market-based benchmark rates for medium- to long-term instruments to facilitate price discovery and encourage the deepening of the bond market, including local or municipal bonds. In practically all of these ADCs, the municipal bond market is very much in the rudimentary stages, as all issuances have generally been made by the central government, or state-owned enterprises which have the backing of the central government.

VI. Overview of Bond Markets in the ADCs

Since the onset of the Asian financial crisis, a major sea-change has started to take place in many of the ADCs in terms of their traditional reliance on overseas borrowings and bank-intermediated financing. The 10 country papers show an increasing trend to view the direct issuance of securities, particularly bond issues by the government and the private sector, as a viable way of financing their projects, and of harnessing the budget deficit as an important and viable means of bringing about the emergence of a local debt market.

In particular, the development of government securities markets is gaining ground as a principal method of encouraging the capital market development of their economies. Budget deficits, per se, are no longer viewed as anathema, even by those countries that long maintained balanced fiscal positions, especially since some have found themselves in the previously unwelcome situation of having to post substantial budget deficits. For some of the countries, it was a rude awakening, but one that

BOX 1
Asian Developing Countries' Efforts in the Use of Credit Rating

In recent years, several Asian Developing Countries have established credit rating agencies to boost their bond markets and promote investor protection. Some have one or more rating agencies in operation, and all are at different stages of sophistication.

The earliest to establish a local agency was the Philippines, which established the Credit Information Bureau, Inc. (CIBI) in 1982 through the efforts of the Central Bank, the Securities and Exchange Commission, and the Financial Executives Institute of the Philippines. Recently, the CIBI was reorganized as the Philippine Ratings Services Corporation (PhilRatings), with technical assistance from Standard and Poor's. In 1999, a second rating agency, Thomson Ratings Philippines, was established, with the help of Thomson Watch and the IFC. Malaysia established the Rating Agency of Malaysia (RAM) in 1990, and in 1996 the Malaysia Rating Corporation.

In Indonesia, PEFINDO (Credit Rating Indonesia, Ltd.), which is the sole credit rating agency, was established in July 1994. Technical support is extended by the RAM and the International Bank Credit Rating Agency.

The Thai Ratings and Information Service (TRIS) is the only credit rating agency in Thailand. It receives technical assistance from Standard and Poor's and is also supported by the Bank of Thailand. TRIS is owned by public, private, and international institutions.

The Korea Investors Service, which is funded by the nonbank financial industry, was established in 1985 to support the rapidly growing securities industry. The commercial banking industry also established the National Information and Credit Evaluation, Inc. Likewise, the Korea Development Bank established the Credit Rating Corporation.

In the People's Republic of China, only the Chenxing Securities Rating Company, Ltd. and Dagong International Company, Ltd. were approved by the People's Bank of China. However, there are around 50 rating institutions composed of accounting and consultant firms which also offer rating services. The ratings process in the People's Republic of China is not well-established, however, and investors do not give much importance to the assessment given by the agencies.

In Sri Lanka, Duff and Phelps Credit Rating Lanka, Ltd., was established in July 1999.

Meanwhile, Moody's, Standard and Poor's and Thomson Bank Watch have recently opened offices in Hong Kong, China.

Singapore and Taipei,China have no local credit rating agencies.

led to a different view of budgetary deficits as a means by which governments can play a more active role in the development of their bond markets. For those countries, which had long been plagued by annual budgetary shortfalls, developing government bond markets provides a means for better debt management and rationalization of security issuances. For others, such as the PRC, which is only recently emerging from a closed and insular nonmarket oriented economy, it provides a fresh insight on hitherto unused tools to help it enter the globalizing world.

Meanwhile, some observers have also noted that there has not been a significant increase in the size of the domestic bond markets of the crisis economies (Malaysia, Indonesia, Republic of Korea, and Thailand) from 1996 to 1999. The study observes that there was no compensating increase in domestic market issues to offset the reduction in international bank lending. The proportion of total debt issued by the public sector was relatively low, suggesting that the use of government securities as a benchmark for constructing accurate yield curves is still unlikely.[9]

Overall however, the 10 economies profiled in the recent ADB Conference on Government Bond Markets and Financial Sector Development in Developing Asian Economies held in Manila, 28–30 March 2000, agree on the importance of developing their bond markets, and of the role that government securities can play in providing the catalytic push towards that goal.

A. Government Bond Market in ADCs

The infrastructure of the market for government securities includes: (i) the supply of government securities in varying maturities; (ii) issuing schedule and lot sizes; (iii) the yield curve; (iv) the demand for bonds by institutions and other investors; and (v) the depth of the market.

Market infrastructure includes mechanisms for primary issues, secondary market trading, clearing and settlement, and support activities such as credit ratings and trading of hedging instruments. An efficient primary market system is one whose competitive procedures and dealer participation ensure that interest rates generated by the market process reflect true market conditions. There are various alternatives for distributing bonds in the primary market, such as straight allocation, public

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9. Batten, Jonathan and Yun-Hwan Kim, *Expanding Long-Term Financing Through Bond Market Development: A Post-Crisis Policy Task.* Paper presented at the ADB Conference on Government Bond Markets and Financial Sector Development in Developing Asian Economies, ADB Manila, 28–30 March 2000.

subscription, private placements, underwriting and organized auctions. Government fiscal agents may use more than one distribution technique. More advanced systems use underwriting and organized auctions, using other methods only for special circumstances. In contrast, less developed countries tend to use forced subscriptions and allocation systems involving large government-run financial institutions, such as state pension funds and government savings or development institutions. The more centralized the economy, the greater the tendency to make use of its captive markets. Such mandatory systems inevitably distort interest rates. The most competitive procedures are auctions, and especially those utilizing electronic access to the bidding process, which provides anonymity and rewards most competitive participants. The 10 ADCs make varying use of auction methods and mandatory allocation.

Most of the ADCs that profess to use development-oriented fiscal policies finance their budget deficits through the issuance of domestic government securities. While a number of them have either had surpluses due to well-managed balance in revenues and expenditures, or because of a political avoidance of deficits, the supply of securities in the market has necessarily come from the government rather than the corporate sector. Governments have moved towards issuing debt with longer-term maturities, not only because they wish to avoid bunching of maturities or refinancing problems, but because in recent years they have taken responsibility for the development of their capital and bond markets. In recent years too, the problems of external debt burdens have prompted governments to look to their domestic markets for the financing of their economic development objectives. This policy change is a turnaround from the past funding of economic development through external debt, which in the last decade had imposed severe foreign exchange burdens on some of the ADCs.

The maturity structure of public debt depends considerably on whether the country is in a state of relative macroeconomic stability or adjustment. Issuing bonds becomes a viable option when the government has a credible macroeconomic stabilization policy and program, and the will and the capability to implement it. Where an economy has a history of large and chronic deficits, it may be expected that the government will tend to issue more short-term instruments such as Treasury bills rather than bonds. This means the cost of refinancing over the long term will be higher, particularly when inflation rates are high. It is therefore in a government's interest to encourage the development of a smoothly functioning debt market that covers a spectrum of maturities, running from short-term debt that gets consolidated into bonds in the primary market, and to provide the supporting measures to deepen the secondary market.

Governments should schedule issuances in appropriate amounts so that the yield curve reflects interest costs that are indicative of market conditions, reasonable price expectations, and macroeconomic developments. The size of scheduled issuances can help in bringing this about. In countries that tend to be in deficit, timing is often linked with revenue expectations, but surplus economies aiming to develop their bond markets would also find it opportune to schedule offerings so that investors may consider them in their business plans.

Another important issue is investor demand for securities. In the country paper on the Philippines, the structural feature of the demand for bonds is described as comprising the institutional composition of investors, size and depth, and the economic incentives of bonds relative to alternative investments. When considering investors, it is important to identify them. Are they institutional investors, such as government pension funds and other state-owned enterprises, or financial institutions? While they constitute a large pool of long-term funds available for investment in bonds, their preferences may relate to their need to ensure liquidity in future, as in the case of insurance and pension funds, which may tend to hold to maturity, or for reserve assets purposes, in the case of banks and financial institutions. This has implications for secondary bond market development.

Of course, investors, whether institutional or retail always look at the financial returns offered by bonds vis-à-vis alternative investments. Risk and return are important, but the market looks at these variables in relation to other considerations such as tax policies and regulatory restrictions. Sometimes, tax policies and cumbersome regulatory procedures (imposed by Central Banks and securities regulatory agencies) have a disincentive effect on the development of the bond market.

The government bond markets in the 10 ADCs are at contrasting stages of development, and are adopting different approaches in their efforts to develop their markets. The two most developed economies, Singapore and Hong Kong, China, provide the paradigms for market-led development. Hong Kong, China in fact was a late starter, and is now at a stage where the private sector debt market is three times as large as the government bond market. It is also well ahead of the other ADCs in its efforts to develop market infrastructure. Singapore, meanwhile, aims to promote itself as an international financial center in Asia, and ultimately as the debt hub in the region for arranging, underwriting, and trading of bonds. Its market comprises both government and private bonds, with a fast-growing primary market of government securities coursed through a network of primary dealers (PDs), and a secondary market supported by a second line of secondary dealers. At the other end of the

spectrum is the PRC, where the only debt is government debt, since only state-owned enterprises other than central government may issue debt. Domestic bonds dominate the market, and debt issuance is an important source of finance, next to bank loans. Initially, bond issuance was introduced very cautiously, mainly to meet the fiscal deficit. The Asian financial crisis brought about a change, however, which led to the use of debt as a tool for stimulating the economy, as well as an important macroeconomic adjustment mechanism. The PRC has a long way to go, however, as it slowly moves away from its very closed and insular system. Any development of its bond market will have to go along with fiscal reforms, as well as reforms in the financial sector and resolution of the issue on market liberalization.

Between these two extremes lie the seven other ADCs—Indonesia, Malaysia, Thailand, Philippines, Republic of Korea, Sri Lanka, and Taipei,China. Hardest hit by the Asian financial crisis were Indonesia, Malaysia, Thailand, and Republic of Korea. Indonesia's bond market is quite simply shallow and illiquid. This underdevelopment is the result of past fiscal policy, which relied heavily on foreign loans to finance budget deficits, and undue reliance on government subsidies by state-owned enterprises. Battered by the financial crisis and the effects of continued political difficulties, Indonesia has to address many issues, including harmonization of fiscal and monetary policies, its debilitating debt burden, governance issues, and developing the appropriate infrastructure for the emergence of a bond market. Malaysia too suffers from an underdeveloped bond market, which could be partly ascribed to a confused regulatory structure. It has, however, taken an initial step with the mandate given to Khazanah, a wholly owned government subsidiary, to issue Benchmark Bonds. It is hoped these will be useful as a guide to pricing corporate bonds. While Malaysia still has to improve its market infrastructure, it has begun to set up a modern and efficient settlement system, has made some progress with a scriptless system, and opened two credit rating agencies. Its secondary market, however, has so far failed to take off. Thailand, the other crisis-hit ADC, issued government bonds to fund successive budgetary deficits. These were absorbed by a captive market that held these to maturity, and the secondary market thus failed to develop. A number of impediments to the development of the bond market have to be addressed, chief among which is probably the need for effective issuance planning. For secondary market development, market infrastructure issues have to be tackled. The Republic of Korea's bond market, meanwhile, developed differently, in that it emerged without the benefit of a benchmark government bond, and has been led by corporate bonds. The country's precrisis aversion to deficit accounts

for the underdeveloped state of the government bond market. The Asian crisis, however, served as a catalyst for the development and deepening of the government bond market, with the move to using three-year Treasury bonds as the benchmark, the introduction of a PD system, and the opening up of noncompetitive participation in the bond market to individuals of up to 20 percent of the volume of the auction, thus latter providing a venue for long-term public savings. The Republic of Korea still has to address various issues, however, important among which are the absence of liquidity, and coordination of fiscal and monetary issues, including tax and interest policy issues, as well as governance issues, which were highlighted during the Asian crisis.

The Philippines, Taipei,China, and Sri Lanka were less affected by the Asian financial crisis. Their government bond markets, while relatively undeveloped, have nonetheless made some important strides, with the governments seemingly committed to making them play leading roles in their economies' capital market development. The Philippines and Sri Lanka have both introduced market-oriented long-term bonds to provide a rudimentary yield curve, although the latter still has to do away with its nonmarketable rupee loans to be able to concentrate on government bonds. For the Philippines, the market for short-term government securities (T-bills) constitutes the largest market for debt instruments, even as attempts to deepen the securities market and broaden investment alternatives are being made to help develop a long-term yield curve. For both, continuing structural reforms and improvements in market infrastructure are necessary, as well as greater coordination between monetary and fiscal policies. Taipei,China, on the other hand, provides a good example of how a government bond market can be made to develop in a short time. It was only in the early 1990s that the Government began to use fiscal policy for infrastructure development, using government bonds as the funding source. Short- and medium-term government bonds were issued, with longer-term bonds gradually included, 20-year tenors being introduced in 1998. There is a well-spaced maturity range that provides a good basis for establishing a risk-free benchmark yield curve.

B. Corporate Bond Markets in ADCs

Except perhaps for the Republic of Korea, corporate issuances in the ADCs have tended to be smaller than issuances of government securities. Historically, the capital market has dealt mainly in government debt. Corporations financing their long-term requirements for expansion have tended to opt for equity infusions, reinvestment of retained earnings, or bank borrowing, rather than bond issuance, despite the wide

variety of instruments that corporations could use, such as secured bonds, mortgage bonds, debentures, convertible bonds, and floating rate bonds. Apparently, there is an incentive problem. Where the company is owned mostly by outsiders, and managers are mere employees or have little equity stake, they tend to follow what is in their interest rather than in the interests of the stockholders (they are overly cautious, for example steering clear of risky projects that require large financing). On the other hand, gung-ho attitudes for risky investments may result in problems related to corporate governance, as seen during the Asian crisis.

As already mentioned, there is a wide disparity in the level of development of bond markets among the 10 ADCs, ranging from the highly developed markets of Hong Kong, China and Singapore to the PRC. Of the seven countries in between, some are at similar stages of development, but each with unique features, often resulting from the fiscal and monetary stance of their authorities.

C. Types of Securities

ADC bond markets are composed of both government and private bonds, with government bonds usually in the majority. Government securities are issued either by the central government, state-owned enterprises, municipal or local governments, or the Central Bank. Private bonds are usually corporate issues.

Government securities are composed of short-term Treasury bills and longer-term Treasury bonds. Across the ADCs these may be called by different names. The PRC for example, has T-bonds, E-bonds (Enterprise bonds) and F-bonds (Financial Institution bonds); Indonesia has SBIs and SBPUs; Hong Kong, China issues Exchange Fund Notes, and Singapore has Singapore Government Securities (SGS). Distinctions are by issuer or length of maturities, with bills generally referring to those with short-term maturities, and bonds those with long-term tenors.

D. Size of Domestic Bond Markets

The size of domestic bond markets varies across the ADCs, ranging from 5 percent of gross national product (GNP) in Indonesia to 97 percent in Singapore. The Republic of Korea, Malaysia, and Singapore are the largest relative to GNP, as well as, surprisingly, the Philippines, despite its lack of a corporate bond market.

The size of the bond markets may be taken in the context of the financial depth of the ADCs. The Philippines and Indonesia have the shallowest markets compared with similar economies such as Thailand

TABLE 1
Comparison of Domestic Bond Markets

Countries	Total Bond Market Size (US$ billion)	Percent of GDP	Composition (percent) Government	Corporate
China, People's Rep. of	776	30	72	28
Hong Kong, China	50	30	25	75
Indonesia	4	5	42	58
Korea, Rep. of	269	84	68	32
Malaysia	42	63	54	46
Philippines	21	32	100	0
Singapore	84	97	80	20
Taipei,China	46	18	66	34
Thailand	14	12	78	22
Sri Lanka	n.a.	5	n.a.	n.a.

Note: n.a. – not available
Source: Table 7 of Philippine Country Paper

and Malaysia, using the ratio of financial assets to GDP. The Asian crisis reduced the value of the equities markets, and induced a marked shift to bank assets, except in the Republic of Korea, where the corporate sector accessed the bond market during the crisis. As of 1998, the financial assets and depth of the ADCs are shown below.

TABLE 2
Financial Assets and Depth of Financial System in Selected ADCs, 1998
(US$ billions)

Countries	Total Financial Assets	Percentage of GDP	Percentage of Total Financial Assets: Equities	Bonds	Bank Assets
China, People's Rep. of	151	15	1	9	75
Hong Kong, China	79	47	4	6	50
Indonesia	8	9	2	5	74
Korea, Rep. of	71	22	1	37	49
Malaysia	23	35	4	18	41
Philippines	10	15	3	21	44
Singapore	36	41	4	23	32
Taipei,China	81	31	3	6	64
Thailand	28	24	1	5	84
Sri Lanka	n.a.	n.a.	n.a.	n.a.	n.a.

Note: n.a. – not available
Source: Philippine Country Paper

E. Investors

Institutional investors are the major investors in Hong Kong, China; Singapore; Indonesia; Malaysia; Thailand; and Philippines. The PRC, in contrast, has an investor base dominated by individuals, while Republic of Korea, Taipei,China, and Sri Lanka have a larger market in the financial sector. Institutional investors comprise pension funds, provident funds, insurance companies, investment funds, post office banks, etc.

F. Issuing Process

Different countries have various means of issuing their securities in the primary market, such as the fixed-price public subscription, otherwise known as the classical bond, private placements, tap issues, and auctions.

In fixed-price public subscription, the Treasury announces most parameters some days before the issue, such as the price of the bonds, coupon, subscription period, issuing volume, maturity, and any special features. These subscriptions are normally done through a consortium, and a high proportion of the debts usually end up held by financial institutions.

In private placements, nontradable bonds are sold only to a few investors, usually banks or institutional investors, but when the secondary market becomes active, the bonds will become tradable. For tap issues, debt is sold directly through the branch network of the banking or postal system.

The auction procedure is now the most common method of government securities issuance among the ADCs, and is used in competitive capital markets whose key factors include internationalization, institutionalization, and dematerialization. Auctions are open to diverse investors—financial institutions and other nonfinancial institutional investors. There are a number of auction formats, among which are: (i) multiple price auctions (or discriminatory auctions, or first price auctions), a sealed bid type of auction where no one has any information on the bids of other participants, bids are ranked, and bidders with the lowest yield (i.e. highest price) are awarded first, followed by the next lowest, until the entire allocation is awarded; (ii) uniform price auctions (or single price auctions, or second price auction, often called Dutch auction). These are similar to the multiple-price auction except that all winning bidders pay only one and the same price, i.e. the highest losing bid; (iii) ascending price auction (or English or American auction), where participants are allowed to react to the bids of others, and the auctioneer

starts at a low price and gradually increases it until demand and supply meet, after which the entire issue is sold at that single market clearing price; (iv) descending price auctions, where the auctioneer starts at a high price which is gradually decreased until someone buys a certain amount, and further decreased until the entire quantity is sold; (v) non-competitive auctions, which are organized for specific investor groups, with debt securities sold at a price resulting from the auction, usually open to smaller, retail investors and not intended for PDs; and (vi) when-issued trading, where governments dispose of another instrument to reduce the winner's curse for competitive bidders, with bidders starting to trade the securities as soon as the Treasury announces the amount it will issue with a certain maturity, and until the moment they are actually issued. Each method has its advantages and disadvantages.[10]

The 10 ADCs presently utilize the auction method to issue government securities. Some have evolved from methods of direct allocation through various underwriting techniques, and currently use either the Dutch or English/American auction methods according to their specific needs. They have also evolved to a system whereby securities have been dematerialized, and electronic book entry means are increasingly utilized, especially for T-bills and T-bonds. Other types of government securities (such as those issued by state-owned institutions, or special types of issues) are issued in bearer form, but the general rule is now for a scriptless environment. The Central Bank, except in the case of the Philippines, where the Central Bank has turned over this function to the Bureau of Treasury, is usually the issue manager. There is some sort of dealer network in every ADC, with each country calling it by an official name, except in Indonesia, where it appears a PD network is still being proposed.

G. Benchmark

Benchmarks play a crucial role in developing securities markets. They are used to gauge the prevailing interest rate structure, market expectations on future interest rate movements, and inflation and associated risk premia. This is because investors in fixed-income securities are exposed to many potential risks, including business risk, interest rate risk, unstable market conditions, purchasing power risk, foreign exchange

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10. *Types and Rationale of Primary Market Arrangements in 21 OECD Countries,* cited in Thailand country paper as coming from De Broeck et al., Theoretical and Empirical Analysis of the Structure and Functioning of Primary and Secondary Markets for Government Debt in the OECD Countries.

risk, and risks specific to the issues themselves. Thus it is essential to have market-based benchmarks, so that securities can be appropriately priced, and investors can make sound decisions. In the US, fixed-income securities are priced against US Treasury securities, which are considerably risk free. A margin to cover the credit risks and any other risks is added on to the prevailing yield of such benchmark securities. Having a credible benchmark yield curve also facilitates the development of hedging and other portfolio management instruments, such as derivatives, futures, and options. Government securities are usually the best securities to form the benchmark yield curve, since they are virtually risk-free, but governments should develop a whole spectrum of maturities. Many of the ADCs in the study realize the importance of benchmarking, and have in fact attempted to lengthen the maturities of their bonds, some to as long as 20 years.

H. Interest Rate Structure

For the government bond market to flourish and set the standards for the bond market as a whole, interest rates should be at or near the market value. Hong Kong, China and Singapore, clearly the most developed of the ADCs, have embraced market direction. Singapore SGS T-bonds offer coupon rates which vary according to market interest rate and tenor, with maturities now moving out to 10 years. Positive yield curves prevail most of the time. Hong Kong, China likewise provides a reliable dollar benchmark yield curve, the credibility of which is based on the exchange rate system under which the Hong Kong dollar is pegged to the US dollar. The benchmark yield curve tracks closely that of US Treasuries. In contrast, interest rates in the PRC continue to be regulated by the authorities, although institutions had been given the flexibility of 20 percent over floating, according to risk, since 1998, which was raised to 30 percent in 1999. Moreover rural bank cooperatives were given a higher range of 10 percent to 40 percent. This authority was only given to short-term loans, with mid- and long-term loans having to adopt the regulatory fixed interest rate.

The seven other ADCs recognize the importance of the development of a benchmark yield curve. Indonesia uses the average time deposit rate (for six-month tenor) as a basis for floating-rate bonds of state-owned banks, with average spread between 100 basis points to 400 basis points over the benchmark rate. The disadvantage, however, is that these time deposit rates do not reflect market interest rates. Likewise, the practice of rate differentiation between small depositors and large institutional depositors is discriminatory. Malaysia shows a transition in interest rate

levels, which, having experienced sudden hikes in 1997, gradually came down. The prevailing Malaysian Government Securities yield curve is positive, with a flattening end at 13 years and above. In Thailand, a proper benchmark did not evolve until 1999, because only synthetic yield curves could be created from published forward and swap market rates, the only information available. After 1998, however, information on government bond auctions became available, facilitating the development of a more efficient benchmark. The first Government Bond Yield Curve, based on weighted average of executed yields of government bond transactions reported by the Thai Bond Dealers' Club dealer members, was developed in September 1998, aimed at facilitating pricing of bonds in both the primary and secondary markets. The Republic of Korea has used three-year corporate bonds guaranteed by financial institutions as the representative market yield. The market yield was directly affected by the currency crisis, and was at an average of 15.8 percent in 1998.

The Philippines recognizes that the government bond market has to develop ahead of its corporate counterpart. A key milestone in government bond market development has been the shift toward long-term tenor and fixed rates. The extension of maturity of Treasury securities is designed to support benchmark securities that will form the long-term yield curve. The benchmark security, the 91-day T-bill, is the most liquid, and reflects the market-determined yield at any point in time. The apparently high premium as the tenor lengthens may, however, be attributed to the tax-free status of five-year T-bonds and their limited liquidity. Sri Lanka reports that the average yields of Treasury bills in the primary market have significantly declined since 1997. The average yield of T-bills of 12-month tenor is 16.24 percent, reflecting a real return of 4.64 percent over inflation. As for Taipei,China, government bond tenors have been spread evenly across the maturity spectrum. With active trading of the outstanding volume of government securities, a benchmark yield curve could easily be established. The problem, however is that the quality of the government bond yield curve is less than desirable, as commercial banks tend to hold to maturity, and the small volume of remaining bonds is likely to allow price manipulation. Market yields will thus lose their benchmarking role.

I. Taxation

Among the particular incentives that ADCs provide for the development of their bond markets are tax concessions, exemptions, holidays and similar perks, especially to nonresident investors. Many ADCs have observed that taxation policies have not been conducive to the devel-

opment of their bond markets, and would like to revise legislation in the fiscal regime, such as taxes and related charges like stamp duty and registration fees. Existing frameworks in a number of ADCs mean bonds are subject to discriminatory taxation, resulting in disincentives to invest in them vis-à-vis, for example, stocks. In economies where the tax treatment of bond instruments (as to income or capital gains) is different from stocks and other instrument, the after-tax risk adjusted return on bond investment turns out to be uncompetitive with other investment vehicles. In some ADCs, while there is no capital gains tax on equity investments, and dividend income is taxed at low rates, capital gains from bond trading are taxed at both the corporate and individual levels. Also, some countries discriminate between foreign and domestic investors. Disparities between the treatment of bonds and other instruments adversely affect bond market development. ADCs should therefore take measures to make their tax systems consistent with capital market development. Singapore and Hong Kong, China have addressed this problem in their own ways, with a view to actively encourage the development of their bond markets.

J. Clearing and Settlement

ADCs have different levels of sophistication in terms of settlement and clearing practices. Some countries have established securities depository, settlement, and clearing mechanisms. A number of these were established only in the 1990s, for example Hong Kong, China, 1994; Indonesia, 1993; Philippines, 1995, and Thailand, 1994. The Ministry of Finance of the PRC plans to establish a central depository, as does the Central Bank of Sri Lanka.

K. Rating Agencies

The establishment of credit rating agencies in the ADCs has been very recent in some, while others still do not have their own. Having a local credit agency is not a sign of the level of advancement of their bond markets, however. Hong Kong, China and Singapore, for instance, do not have home-grown credit rating agencies, but utilize international rating agencies—in Hong Kong, China Moody's, Standard and Poor's and Thomson Bank Watch have recently opened offices. Taipei,China does not have a local credit agency, but the PRC has, apart from two approved agencies, around 50 rating institutions (rating provided by accountants and consulting firms). The People's Republic of China, Indonesia, Malaysia, Philippines, and Sri Lanka have all established their

own credit rating agencies between 1982 (Philippines) and 1999 (Sri Lanka). Some have recently established second institutions.

L. Primary Market

The Government usually issues its securities to the investing public through the Central Bank or the Treasury (in the Philippines). The instruments are usually called Treasury bills, bonds, or notes, and represent sovereign obligations of the Government. Treasury bills are usually short-dated instruments, coming in various tenors of less than one year, some being expressed in number of days, (following the universal practice of ensuring that bills fall due on a business day), others in months. Quotes for T-bills are either by yield rate (discounted) or by price based on 100 basis points per unit. Treasury bonds are securities of longer than one-year tenor, with yields equal to the sum of any discount or premium, and coupon rate expressed as a percentage of face value on a per annum basis. Many of the ADCs have started to lengthen the maturities of their T-bonds to encourage the development of a yield curve.

The common issuance procedure is by auction, usually by electronic auction, with a network of government-authorized or -appointed dealers or market makers, who try to outdo each other's bids. An auction process begins with the Central Bank or Treasury sending out a notice of public offer to sell Treasury securities from the Secretary/Minister of Finance, which sets out terms and conditions and rules and regulations. Where electronic trading facilities exist, these notices are sent in electronically, and tenders are sent in by the authorized dealers from their own terminals. Once an auction is successfully completed, notices are also sent electronically, awards downloaded to the winning dealers' principals securities account, and a summary of auction results normally prepared.

Private issues, or capital market issues, may be sold in the primary market in one of two methods: underwriting or private placement. If sold through the underwriting process, such primary issues are sold by underwriters to their investor-clients. Private placements, on the other hand, may take longer to complete, since the issuer negotiates with investors individually.

The 10 ADCs have varying levels of concentration insofar as the corporate bond market is concerned. Hong Kong, China has the highest proportion at 75 percent of total, with only 25 percent for government bonds. Other countries with significant corporate bond markets are Indonesia, at 58 percent; Malaysia, 46 percent; Taipei,China, 34 percent; and the Republic of Korea, 32 percent. Singapore has a larger government

bond market at 80 percent and 20 percent corporate, similar to that of Thailand whose ratios are 78 percent for government, and 22 percent for corporate bonds. The PRC and the Philippines have the smallest corporate bond markets, with the PRC at a ratio of 9 percent for corporate and 91 percent for government, and the Philippines with no domestic corporate bond market to speak of, since all of its market is in government bonds.

M. Secondary Market

The secondary market for debt securities in the ADCs is an over-the-counter system, with trades conducted through PDs and other licensed securities dealers. For most of these economies, there is no real secondary market to speak of, because most investors, especially institutional investors, tend to purchase securities and hold them to maturity. Some of the ADCs still rely on a captive market. In the case of the PRC, investors are mostly private individuals who look on government securities in the same way as savings deposits. The main reason for the snail's pace development of the secondary market in most of the ADCs, however, has been the absence of some important parameters found in the thriving markets of the West, such as benchmark yields, accounting practices such as marking-to-market, and efficient clearing and settlement systems. Fiscal agents in a number of ADCs, notably Malaysia and Singapore, limit dealers to a few large merchant banks, but require them to bid for a high-minimum volume in every auction. Such a process enables dealers to hold inventory and be positioned to make markets. Likewise, some Central Banks have successfully used repo transactions as a monetary tool to help develop secondary markets, although there are still problems that impede their active use (such as tax and regulatory difficulties).

Some countries have tried to develop the secondary market through the setting up of secondary market institutions (SMIs). An example of this initiative is the Hong Kong Mortgage Market Corporation, established in March 1997, on the premise that fertile ground exists for the development of a secondary mortgage market. It was illustrated by the increase in outstanding residential mortgage loans from 8 percent of GDP in 1980 to 40 percent in 1998. A properly developed secondary mortgage market can play a useful role in channeling long-term funds, such as insurance and pension funds, to meet the rising demand for long-term home financing. The Philippines, which considers the provision of housing to its citizens as a major commitment, last year undertook a series of round table discussions on how to encourage the development of asset-backed securities, in particular mortgage-backed securities, and

held a Conference on Securitization in October 1999. Among the resolutions of the conference was to endorse for legislative sponsorship a bill on securitization that would provide for the creation of secondary mortgage institutions and special purpose vehicles, with the private sector taking the lead for the promotion of the organization of a proposed SMI.

Another challenge to secondary market development is the absence of a formal organized venue for trading fixed-income securities. Some ADCs, notably Indonesia and Thailand, have initiated the establishment of formal bond exchanges. This spurs bond market development by creating a unified venue for primary bond issuance and secondary trading.

BOX 2
The Hong Kong Mortgage Corporation

The Hong Kong Mortgage Corporation (HKMC), incorporated in March 1997, is wholly owned by the Government through the Exchange Fund. Its initial phase of development involved the purchase of mortgage of loans for its own portfolio, and funded the purchase through the issuance of unsecured debt securities. The second phase, which is now in progress, involves the securitization of mortgages into mortgaged-backed securities, and offering them for sale to investors.

The HKMC has a mortgage portfolio totaling HK$11.4 billion (US$1.5 billion) as of 31 December 1998, 90 percent of which consists of floating-rate mortgages and 10 percent of fixed-rate mortgages. The HKMC has very high selection criteria to ensure its mortgage portfolio remains of the highest quality. The historical default rate is very low, in the last quarter of 1999 being reported as only about 0.07 percent.

The HKMC successfully issued a total of HK$5.2 billion (US$0.7 billion) of unsecured debt in 1998 through its HK$20 billion (US$2.6 billion) Note Issuance Program (NIP) and HK$20 billion (US$2.6 billion) Debt Issuance Program (DIP), making it the second most active issuer of Hong Kong dollar fixed-rate securities for the year. On 22 October 1999, seven outstanding issues of its notes were listed on the Stock Exchange of Hong Kong Ltd. with an aggregate issue amount of HK$3.5 billion (US$0.5 billion). Issue maturities ranged from one-and-a-half to three years. HKMC debt securities were well received by banks and institutional investors, with the notes issued under the NIP being oversubscribed by 4.5 times. HKMC papers are considered to be low risk as they are effectively quasi-government papers.

The HKMC intends to launch a multicurrency Medium Note Issuance Program, and the inaugural issue of mortgage-backed securities.

VIII. Policy Recommendations

In most of the ADCs covered in the study, efforts to develop their bond markets, particularly government bond markets, have been underway for some time, although with greater urgency since the Asian crisis. For most of them, the factors which have inhibited the development of their bond markets may be classified into two broad categories: those which have to do with fiscal and monetary policy harmonization and with regulatory aspects, and those which are related to market infrastructure.

A. Fiscal and Monetary Policies and Regulatory Aspects

In several countries, various aspects of fiscal and monetary policy and the lack of harmonization among the authorities were cited as among the difficulties. Fiscal policy will always be concerned with balancing the government budget, while monetary policy is concerned primarily with stabilization.

Past fiscal policy had preferred to utilize foreign loans to cover fiscal deficits, particularly in Indonesia. At the other extreme, a strong aversion to fiscal deficits and adherence to a conscious policy of balanced or surplus budgets had characterized the PRC, the Republic of Korea, and the two most advanced ADCs; Hong Kong, China and Singapore (which because of their strong economies were in surplus most of the time). This was responsible for the late development of the government securities market in the Republic of Korea, for example, where the corporate bond market led the way. There are also discussions on which government body should take charge of the issuance of government debt. In most countries, this has been performed by the Central Bank, for the fiscal authorities, but this has implications on the independence of the Central Bank. In the Philippines, this became an issue which led to the revision of the Central Bank charter, removing its fiscal agency functions and transferring the responsibility for government securities issuance to the Bureau of Treasury. This led to some areas of dissent as regards interest rate policy (the Treasury understandably wants to keep the rates down, while the Central Bank's responsibility for stabilizing monetary aggregates may not always agree with this). In some other countries, the fiscal authorities have failed to have a regular schedule of issuances. Whether a country be in deficit, balance, or surplus, a regular and predictable schedule of issuances is important for the development of a government bond market.

The government should issue a policy statement that it commits itself to bond market development. As earlier stated, it is necessary to

move beyond motherhood statements. Following that, fiscal and monetary policies should be coordinated, rather than working at cross-purposes (for example, in the case of the yields of government bonds, the fiscal and monetary authorities may have different views on interest rates).

Tax issues also affect the development of the government bond market. Except for Singapore and Hong Kong, China, which have deliberately maintained investor-friendly taxes, most of the other ADCs have tax distortions, which impede market development, particularly of the secondary market. There are also tax arbitrage opportunities because of differential treatments among various types of instruments or investors (individual versus institutional in the case of Taipei,China).

In terms of legal and regulatory frameworks, a number of the ADCs need to review their existing laws and regulations. Even a relatively developed country, such as Hong Kong, China, is reviewing its antiquated legal system, based on its historical ties with the UK, with a view to creating a framework more appropriate to the times. The Philippines, on the other hand, has impediments in some provisions of its Corporation Code, resulting in the invention of creative methods such as long-term commercial paper which effectively are bonds.

Another important aspect for the development of an orderly bond market is the existence of an enforceable and consistent set of rules and procedures with predictable results. Common to all these ADCs is the aim of promoting sound business practices, which would protect investors, but rules and procedures vary among the countries reviewed. The Asian financial crisis clearly emphasized the need for good governance practices among financial institutions, corporations, and the public sector.

B. Market Infrastructure Impediments

Included here are issues relating to the primary market, secondary market, benchmarking, hedging instruments, issuance procedures, clearing and settlement, credit rating, investment constraints, and other aspects that affect market development.

Most important is the need to accept the market as the final arbiter of transactions, and thus foster healthy competition.

1. Primary Market

In the primary market, an important consideration is the development of systematic auction schedules for government bond issues. Comments were made in the various country papers about the need for a regular, announced schedule so that investors could plan and better manage

their investment programs. Most of the countries have already started to move away from the private placement or captive market system, and have begun to use auctions of one method or another. It should be recognized that auctions are the most market-oriented and competitive method of bringing the government bond market to maturity.

Also pointed out were the limited varieties of instruments available. Issuance of government bonds with a broader range of maturities would be an important step towards the development of a benchmark yield curve. For the corporate sector, too, a greater variety of fixed-income instruments was suggested to fit their business requirements and the needs of investors.

The government has to take an active role in the primary market. It has to ensure a steady supply of securities, regardless of its fiscal position. Countries that have enjoyed steady surpluses have tended to lag behind, and may rectify the situation by publishing a schedule of offerings in the market. Similarly, campaigns are needed to increase public awareness of investment in bonds as an alternative saving vehicle, especially in remote areas where saving is considered synonymous with bank deposits. The PRC, with its huge pool of savings has little choice in the instruments that individuals may access. Another proactive measure is to enjoin those ADCs which have no PDs as yet to set up a dealer network of market makers. The Government should also ensure transparency in the allotment of offers, while credit rating agencies are important for corporate bond development.

2. Secondary Market

A major impediment to secondary market development in most of the ADCs is lack of liquidity, seen to arise from such factors as the lack of market-making mechanisms, undeveloped technological infrastructure in the Central Bank/Treasury, and the inability to access information. Nontransparency has led to moral hazards, and creates inequitable premia across instruments and investors.

It was noted, however, that the ADCs have moved to address some of the constraints relative to secondary market development by establishing, among others, primary and secondary market dealers, bond information exchanges, and electronic trading systems. Some have moved faster in this respect, in particular, Hong Kong, China and Singapore, but Thailand has also established a system that provides broad, easily accessible coverage of market information obtained from the reports of the dealers. The other ADCs need to improve the repo market to generate greater liquidity, and also enhance the retail base.

3. Benchmarking

The need to develop an appropriate benchmark was emphasized consistently. A benchmark security is a government security of a certain tenor that is so liquid that it has a market-determined yield at any point in time. Without a true yield curve, there cannot be an active, liquid discount or quote-driven market for securities. A sufficient volume of government securities with various tenors should thus be available to ensure a true yield curve across a spectrum of maturities. Countries with histories of balanced or surplus budgets would have to drop their aversion to issuing government securities, and provide a schedule of issuances so that such a benchmark yield may be generated.

4. Hedging Instruments

The derivatives market and hedging instruments are necessary tools to stimulate bond markets. Among the products in this market are interest rate options, futures, swaps, etc. With the use of derivative products, some types of risks may be segregated and transferred among market participants. "Speculation" need not necessarily be a bad word, as "banking" or "hedging" on future developments is really part of a healthy and robust market, but the appropriate regulatory structure, transparency, and information should clearly be in place for the protection of investors.

5. Market Participants

Sparse participation in the secondary market is common among most of the ADCs. Most have relied on institutional participants, but participation in the bond market is still somewhat constrained. For some, the reason has been investment restrictions (pointing again to the need to look at certain regulatory aspect, such as constraints on the types of investments that insurance companies may get into). Likewise, there is a need to encourage retail or individual participation. Some have opened up portions of their auctions to individual participants. There may also be a need to look at nonbank financial intermediaries (such as developing mutual funds so that small investors can participate in the market).

6. Clearing and Settlement Mechanisms

Many of the countries covered do not yet have well-functioning clearing and settlement mechanisms, although a few have started to set up their own, which have still to be improved upon. The Philippines,

Thailand, and Malaysia, to cite a few of the middle-developed countries in the study, have instituted registers for scriptless securities and methods of settlement on a real-time basis (still at initial stages). It is, however clear that a more efficient and reliable clearing settlement system that incurs minimal cost should be developed, as well as integration of trading, clearing, and settlement procedures.

7. Credit Rating

An important feature of developed bond markets is the existence of credible rating agencies, that provide investors with an objective and impartial opinion on the credit quality of debt issues. Many of the ADCs have already taken the necessary steps to set up domestic rating agencies, but these need to be upgraded to international standards. The need for credit rating agencies has also been recognized by the more advanced countries in the study, i.e. Hong Kong, China and Singapore, which utilize international agencies and have not put up their own.

Perhaps the most important lesson to be learned from two of the fastest-growing bond markets in the study is the active espousal of the governments of Hong Kong, China and Singapore of private sector freedom. Hong Kong, China's policy of positive noninterventionism has provided a free, open, and competitive environment in which business can flourish. Minimum intervention, however, does not mean that the Government merely sits back as the private sector does its own thing. The Government provides the necessary infrastructure and a stable legal and administrative framework. Moreover, it has implemented a set of prudent fiscal, monetary, and regulatory policies designed to enhance growth. Singapore is keen to develop itself as an international debt center in Asia. Towards this end, it has undertaken a program of major reforms starting 1998/99, ranging from increasing the issuances of SGS to concessions for foreign institutions doing business in Singapore, and tax incentives to encourage debt origination and trading of securities in Singapore, as well as other forward-looking changes to enable the development of the secondary market.

BOX 3
Bond Market Reforms in Singapore (1998–1999)

Reforms Implemented
Singapore Government Securities Market
Increased Singapore Government Securities (SGS) issues (1998/99)
Announced regular calendar of issues (July 1998)
Issued 10-year SGS (January 1999)

Statutory Board Bonds
Jurong Town Corporation bond issues (1998/99)
Housing and Development Board (HDB) bond issues (1999)
Land Transport Authority bond issues (1999)

MAS Notice 757—Non-Internationalization of S$ (1998)
Allowed foreign entities to issue S$-denominated bonds (1998)
Allowed banks to transact S$ repo of up S$20 million with nonbank nonresidents (1998)
Removed S$ repo limit
Allowed banks to transact S$ currency and interest rate swaps with special purpose vehicles for securitizing mortgages

Central Provident Fund (CPF) Investment Scheme (1998)
Allowed CPF Unit Trusts to invest in high-grade bonds

Tax Incentives (1998/99)
Introduced tax incentives to encourage debt origination and trading of debt securities in Singapore
16 financial institutions accorded Approved Bond Intermediary status (1999)

Reforms to be Implemented
Promote Asset-Backed Securities market
Resolve legal and regulatory issues relating to asset-backed securities
HDB may issue mortgage-backed securities
Introduce regulatory guidelines for underwriters and dealers and trading rules for debt securities
Develop efficient clearing system for corporate bonds

References

Country Papers

Development of Government Bond Markets in ADCs—Hong Kong, China
Development of Government Bond Markets in ADCs—Indonesia
Development of Government Bond Markets in ADCs—Republic of Korea

Development of Government Bond Markets in ADCs—Malaysia
Development of Government Bond Markets in ADCs—People's Republic of China
Development of Government Bond Markets in ADCs—Philippines
Development of Government Bond Markets in ADCs—Singapore
Development of Government Bond Markets in ADCs—Sri Lanka
Development of Government Bond Markets in ADCs—Taipei,China
Development of Government Bond Markets in ADCs—Thailand

Other References

ADB, *Promoting Financial and Capital Market Development, Voluntary Principles and Collaborative Initiatives,* A Background Paper on the recommendations of the Asia-Pacific Economic Cooperation (APEC) Finance and Central Bank Deputies for the Fourth APEC Finance Ministers Meeting, 4–6 April 1997.

ADB, *Creation of Market Based Financial Structures and Policy Instruments to Facilitate Increased Capital Mobility in the APEC Region*, November 1997.

ADB, *Capital Market Development in the Asia-Pacific Region*, Summary of Proceedings and Papers Presented at a Symposium held on 14–16 January 1986, in Manila, Philippines.

Batten, Jonathan and Yun-Hwan Kim, *Expanding Long-Term Financing Through Bond Market Development: A Post Crisis Policy Task,* Paper presented at the ADB Conference on Government Bond Markets and Financial Sector Development in ADCs, 28–30 March 2000.

IMF, *Annual Report 1998.*