2 Creating regional bondmarkets in East Asia

Yung-Chul Park and Daekeun Park

Of all probable structural weaknesses, the absence of vibrant bondmarkets never fails to make the long list of the causes of the 1997–98 East Asian financial crisis. A year after the financial crisis, Donald Tsang, financial secretary of Hong Kong SAR, cited the failure to establish a strong and robust Asian bondmarket as one of the reasons for the financial turmoil in East Asia, asking ‘how is it that we in Asia have never been able to replicate the Eurobond market success in this part of the world?’ (Tsang 1998). International financial institutions such as the International Monetary Fund (IMF) and the World Bank invariably pointed to the absence of efficient domestic bondmarkets as one of the major causes of the 1997–98 financial crisis (Independent Evaluation Office, IMF 2003). Even before the crisis, East Asian countries were urged to develop domestic bondmarkets to complement their bank-denominated financial systems.

After the crisis, the development of local bondmarkets has been highlighted as one of the major objectives of financial reforms proposed by the IMF, World Bank and Asian Development Bank (ADB) for East Asian economies. Parallel to reform efforts, there have been repeated calls for the establishment of regional bondmarkets in East Asia (Bergsten and Park 2002). Responding to these calls, and as the part of the regional efforts towards financial cooperation and integration through the Chiang Mai Initiative, the ASEAN+3 have taken steps to explore possibilities and modalities of creating Asian bonds and market infrastructures.

There is a growing interest in regional bondmarkets in East Asia in the literature. Several strategies for the creation of new, and the expansion of existing, regional bondmarkets in East Asia have been put forward. However, despite these proposals on the need for regional bondmarkets, there is little

agreement on what these Asian bondmarkets are and, if there is, whether they are needed in East Asia.

This chapter analyses the rationale and strategies for creating regional bondmarkets in East Asia, looking at the characteristics of the regional bondmarkets that are likely to evolve as the region continues with financial liberalisation. It examines the role and efficiency of existing regional bondmarkets in East Asia and discusses the economic rationale and need for improving the existing, or establishing new, East Asian bondmarkets.

Asian bonds and Asian bondmarkets

An 'Asian bond' is one which is issued by governments, corporations or financial institutions of East Asia, offered for sale in a number of countries and denominated in a currency foreign to a majority of investors. An Asian bondmarket is where Asian bonds are issued and traded. Although the suppliers of these bonds are mostly borrowers from East Asia, buyers include global, as well as regional, investors. Because of this global investor base, Asian bondmarkets will not be geographically segmented markets, rather, they will inevitably be linked up with global bondmarkets.

At this stage of financial liberalisation, few of East Asia's emerging market and developing economies are prepared to issue bonds denominated in their own currency in global and regional bondmarkets. There is hesitation in allowing non-residents to hold large amounts of local currency for fear that such currency internationalisation could erode domestic control over monetary policy. Bond issues in East Asian regional markets would therefore be denominated in major international currencies such as the US dollar, yen, euro and some of the currencies of the East Asian countries, with domestic bondmarkets open to foreign borrowers such as Hong Kong SAR and Singapore.

It is widely expected that the Asian Bond Markets Initiative launched by the ASEAN+3 will spearhead the development of both domestic and regional bondmarkets in East Asia. At the regional level, the cooperative efforts of the 13 countries may set in motion three interrelated market developments for bond financing in East Asia: financial integration in the region, the emergence of regional trading centres for Asian bonds, and growth in the number of offshore regional bondmarkets. Financial integration in the region will establish closer linkages among domestic bondmarkets of individual East Asian countries. Assuming that financial reform for free and open financial markets is sustained throughout the region, and that ASEAN+3 can cooperate to construct a regional clearing and settlement system, domestic bondmarkets of individual East Asian countries will be integrated with one another to create a large regional bondmarket.

This process will be slow, uneven and subject to the political and economic cohesiveness of the ASEAN+3, lacking at present. As shown by the European experience, even in a common currency area derailment of financial integration can occur unless market distortions are removed and market practises in different countries are harmonised. The evolution of a regionally integrated market in East Asia is at present a long-term prospect that is at best uncertain.

Regional trading centres for Asian bonds will emerge as a number of individual countries open their bondmarkets to foreign borrowers and investors. Japan, Hong Kong SAR, China, Singapore and Korea all have plans for transforming their domestic bondmarkets into international or regional bondmarkets. The bonds issued by foreign entities in these markets will be denominated in the currencies of these prospective regional financial centres. Therefore, a number of Asian bondmarkets, differentiated by the currency denomination, are likely to come into existence, such as the yen, Singapore dollar and Hong Kong dollar markets.

Along with the growth of these onshore international bondmarkets, a number of offshore regional bondmarkets, similar in structural characteristics to the old Eurobond market, will emerge as new sources of bond financing in East Asia. Several offshore regional bondmarkets already exist, and these and new offshore markets may gain deeper and more liquid features as financial market deregulation and opening permeate throughout East Asia. Bonds issued in these markets are likely to be denominated in major international currencies, some of the currencies of East Asian countries with open domestic bondmarkets. Issuance of Asian bonds in these offshore bondmarkets is likely to consist of private placements offered by underwriters via dealers to institutional and private investors. Offshore bondmarkets will be subject to little regulation from host regulators and withholding income taxes. Disclosure may also depend on the prominence of the issuance and will be less stringent than the onshore markets, increasing the speed of issuance. These characteristics constitute the source of competitive advantage in these markets.

Some of the bonds issued in these offshore markets will be listed in regional financial centres because the listing tends to improve the liquidity, and hence the marketability, of a bond, although most Asian bonds are likely to be registered securities and traded in the over-the-counter market. The onshore domestic bondmarkets open to foreign borrowers and offshore regional bondmarkets are separate but interdependent markets. Over time the increase in institutional investors in the region, and competition between them, will lead to convergence of the two markets.

Several countries in East Asia have been active in regionalising or internationalising their domestic bondmarkets and also in hosting offshore regional bondmarkets. At this stage, it is not clear which countries will survive the ongoing competition to emerge as major trading centres for Asian bonds. In view of the European experience, it appears that countries with deregulated and open financial markets and with an efficient system of payment and settlement will succeed over other competitors as East Asia's major regional trading centres for Asian bonds.

Efficiency of Asian bondmarkets—both onshore and offshore—will hinge on developed regional systems of payment, clearing, settlement and depository services that ensure real time gross settlement with delivery versus payment for cross-border transactions of bonds. Depth and liquidity of Asian bondmarkets will also improve if regionally specialised rating agencies are established.

At present, the requisite infrastructure for regional bondmarkets hardly exists and it may take years to establish. If prospects for the Asian Bond Markets Initiative are promising, some countries aspiring to be regional financial centres will take the lead in constructing region-wide financial infrastructures. Cooperative efforts at the regional level for integrating different local clearing and settlement systems in different countries are needed but, in the absence of official sector intervention, may not be organised easily and may not succeed even if they are organised. However, the competition for hosting regional bondmarkets, together with the Asian Bond Markets Initiative of the ASEAN+3, may bring the economies in East Asia together to build a regional financial infrastructure.

Regional bondmarkets in East Asia

The current debates on, and numerous proposals for, creating Asian bondmarkets may give the impression that East Asia has no regional bondmarket where regional entities can raise capital by issuing bonds denominated in East Asian currencies. In fact, there are already a number of offshore and onshore regional bondmarkets located in Tokyo, Hong Kong SAR and Singapore that are accessible to East Asian borrowers.

Most of these markets have not served as important sources of financing to a majority of East Asian borrowers as they have a relatively small investor base. Largely because of high issuing costs, East Asian borrowers who can issue bonds in global bondmarkets have ignored these markets.

Tokyo has two offshore bondmarkets—the Samurai bondmarket where foreign borrowers can issue yen-denominated bonds and the Shogun

bondmarket open to foreigners to issue bonds denominated in foreign currencies (Appendix 2.1). In Hong Kong SAR, foreign borrowers receive the national treatment and can issue bonds as freely as Hong Kong SAR residents in its domestic bondmarket. In 2002, the Central Moneymarkets Unit was established to facilitate settlement, clearing and depositary services related to secondary market trading of these international bonds.

Singapore has an offshore Asian dollar bondmarket where most of the issues are denominated in US dollars (92 per cent in 2001). Singapore has also deregulated its domestic corporate bondmarket to allow foreign borrowers to issue Singapore dollar-denominated bonds since 1998 (Appendix 2.2).¹ Between the opening of the domestic Singapore dollar market to foreign issuers in August 1998 and to the end of 2002, S\$10.3 billion bonds were issued by foreign entities in Singapore dollars (Ngiam and Loh 2002). Because of the currency trading restriction (designed to discourage the formation of an offshore Singapore dollar market) foreign issuers must convert their proceeds into a foreign currency when they are taken out of the country. This restriction has limited the scope of the Singapore domestic bondmarket as a regional market.

Financial deregulation has also increased the opportunities for cross-border bond financing and trading in Korea. For example, the Korean authorities have deregulated many capital market activities so that foreign borrowers can issue bonds denominated not only in the Korean won but also in other currencies. Deregulation is yet to attract many foreign borrowers: the number and amount of foreign issues have been negligible. As in Singapore, the won proceeds have to be converted into a foreign currency when they are taken out of the country because of the policy of not allowing internationalisation of the won.

The issuer base is also small for both onshore and offshore regional bondmarkets in East Asia; fiscal prudence in the region has limited the supply of sovereign bonds. The supply of corporate bonds in these markets has been even smaller, largely because bank financing has been relatively cheaper than bond financing and the number of corporations that can obtain an investment-grade rating has been small.

Tokyo has been a logical candidate for the trading centre of an Asian bondmarket given its size and the potential of the yen as a major international currency. The city has yet to serve as a centre, because it has failed to build the efficient institutional infrastructure required for bond issuing and trading. The prospects for internationalising the yen also do not appear to be promising (Park 2002).

The cost of raising funds on Asian bondmarkets is likely to be higher than in global bondmarkets, as evidenced by recent developments in the Japanese

Samurai and Shogun bondmarkets. Although it is expected that foreign borrowers would take advantage of the low interest rates and continuing deflation in Japan, the issuance of Samurai bonds amounted to only 3.8 trillion yen in 2002, less than one tenth of the pre-crisis peak level (38.7 trillion yen) in 1996, while no Shogun bonds have been issued since 1994. One of the most important reasons for this inactivity is simply the higher cost of borrowing through these markets than the Eurobond market or the Yankee bondmarket. Rhee (2001) shows that the difference in all-in-cost to a sovereign borrower of 20 billion yen between the Samurai and euro-yen bonds is about 7 basis points (14 million yen). The lead time required from mandate to launch takes a few days in the euro-yen issue, whereas it takes two to three months in the Samurai bond issue. Foreign issuers are also subject to a cumbersome regulation that requires a Japanese prospectus.

Inefficiency of the clearing and settlement process is another reason for the high cost of borrowing through the Samurai bondmarket. The transactions of euro-yen bonds can be settled through international central securities depositories, such as Euroclear and Clearstream, whereas the Samurai bondmarket is not eligible for such global clearing and settlement. Growth of the Tokyo markets has also been hampered by the lack of a regional clearing network in East Asia that links Tokyo's clearing system with the region's financial centres such as Hong Kong SAR and Singapore.

The rationale for creating Asian bondmarkets

Since the 1997–98 crisis, there has been a growing regional movement toward financial and monetary integration in East Asia. The Chiang Mai Initiative reflects such regional efforts for integration. Policymakers of the ASEAN+3 have also been working on developing a blue print for the creation of Asian bondmarkets as part of their strategy for expanding the scope of financial cooperation and deepening economic integration among the member countries.

Over the past five years, total savings of ASEAN+3 on an annual average have accounted for 19.7 per cent of global savings, larger in an absolute amount than those of the European Union. More than 12 per cent of these savings has been lent to the United States and other parts of the world to finance their investment. Collectively, the region has sustained a much higher savings rate than both Europe and North America. The combined GDP of the 13 countries was equivalent to 20.7 per cent of world GDP in 2002. These macroeconomic indicators leave little doubt that the region has an economic capacity in terms of savings and investment to support large and efficient capital markets.

Despite the large economic base, both domestic and regional bondmarkets are underdeveloped and hardly serve as a major source of investment financing. There are a number of reasons for the absence of efficient bondmarkets in East Asia. East Asia has not nurtured a market-oriented financial culture as its financial system has long been dominated by banks and other financial intermediaries. In many countries, small and medium-sized firms are not creditworthy in the eyes of the institutional investors who constitute the majority of bondmarket investors. On the other hand, large firms with global exposure and investment-grade ratings have migrated to global bondmarkets. The region could have at least supported markets for high yield East Asian bonds with speculative credit ratings. As shown by Wong and Ho (2003), there has been little demand for Asian high yield bonds as they are not as attractive in terms of the risk-adjusted returns as similar US corporate bonds to most regional and global investors. Most of the East Asian countries have therefore neglected, or put off, strengthening financial infrastructures required for broad and deep bondmarkets, and have had little incentive to train and develop the skilled personnel who move the markets—dealers, traders, investment bankers and portfolio managers.

Since 1998, most of the countries in the region have set the development of bondmarkets as their financial reform priority with the realisation that a balanced financial system, in terms of markets and financial intermediaries, is key to maintaining financial stability. As the fear of another financial crisis has receded, so has the initial resolve for financial reform. The Asian Bond Markets Initiative, it is often argued, will sustain financial reform, thereby helping East Asian countries achieve their reform objectives.

In contemplating the creation of regional bondmarkets, East Asian policymakers will be asking three fundamental questions regarding the benefit and cost of building regional bondmarkets and requisite financial infrastructures. One question is whether East Asia needs, and can support, regional bondmarkets. If it does, then another question is whether these markets can become efficient in terms of the cost of borrowing to survive competition *vis-à-vis* global bondmarkets. Would they grow into robust and liquid markets to improve capital allocation, to open new and more investment opportunities than before, and to contribute to financial stability and integration in East Asia? Finally, what could East Asian policymakers collectively do to assist launching and developing regional bondmarkets in the region?

At this stage of development, there is no guarantee that regional bond initiatives mounted by the ASEAN+3 could succeed in fostering regional capital markets that are as competitive as global capital markets in North America and Europe. With continuing globalisation of financial markets and

advances in financial technology that allow financial firms in international financial centres to reach investors and borrowers in remote corners of the world, questions also arise as to the need and rationale for creating regional capital markets in East Asia.

Efficiency gains

Given its dynamism and the availability of a large pool of savings, many argue that East Asia could support large and efficient regional bondmarkets, which can be as competitive as global bondmarkets. If these markets can be created and made competitive, then East Asian borrowers will benefit from the greater availability of funds, possibly at a lower cost than before. On the demand side, East Asian institutional and private investors would gain from deep and liquid regional bondmarkets as a greater variety of bond instruments could facilitate management and improve the risk-return profiles of their asset portfolios.

While potential benefits from broad and deep regional markets could be substantial in terms of efficiency gains, these benefits would be greater if regional markets were fully integrated with global markets. If global financial integration is the ultimate objective of financial market opening, then it may follow that East Asian countries would be better off by integrating domestic bondmarkets with global ones from the beginning rather than creating and integrating with regional bondmarkets.

With greater access to better and more reliable information on the activities of individual corporations, in both developed and developing economies, institutional and private investors from East Asia and other parts of the world have increasingly sought out investment vehicles from different regions and countries to diversify the risks of their portfolio investments. Financial market opening and deregulation of capital account transactions throughout the global economy have also dissipated regional, as well as domestic, bias in portfolio investment. As East Asian economies open their financial markets, a growing number of firms will respond to international capital markets as they meet the requirements for cross-listing on, and capital raising from, international exchanges (Eichengreen and Park 2003).

Efficiency gains do not necessarily provide the economic rationale for creating Asian bondmarkets in a world economy where financial markets are increasingly globalised; East Asia could benefit more from global integration. However, many developing economies in East Asia simply do not have domestic bondmarkets, with prospects for developing them unpromising. Except for those of Singapore, Hong Kong SAR and Tokyo,

most bondmarkets in East Asia are shallow and narrow so that they cannot be integrated into global bondmarkets. At the same time, there is dissatisfaction with global bondmarkets with the sentiment that they are discriminating against Asian bond issuers because they tend to ignore Asian firms with high credit quality and good growth prospects. If these concerns are valid then East Asian policymakers can build a strong case for their Asian Bond Markets Initiative on the grounds that regional markets will serve as a new source of bond financing to many East Asian firms, and in doing so build a *bloc* for the global integration of bondmarkets in the long run.

Promoting financial stability

Sudden reversal of capital flows to the five East Asian crisis countries, leading up to the financial crisis—Indonesia, Korea, Malaysia, Philippines and Thailand—was on the order of US\$105–110 billion. Before the crisis, many governments could not issue sovereign bonds in global bondmarkets and the number of corporations that could was limited in East Asia. In the absence of domestic bondmarkets, much foreign lending took the form of short-term bank loans denominated in US dollars. As a result, foreign debts of these countries consisted mostly of short-term dollar denominated obligations. At the end of 1996, China, Hong Kong SAR, Japan, Singapore and Chinese Taipei held a combined total of US\$700 billion in foreign reserves, much of which was invested in short-term dollar-denominated assets. Restoring financial stability in Indonesia, Korea and Thailand required the IMF to mobilise a total of US\$59.7 billion from various sources, including its own facilities for the liquidity support for the three countries.

These figures clearly demonstrate that an allocation of 10 per cent of the foreign reserves of the five non-crisis East Asian economies to the crisis countries for liquidity support could have averted or at least mitigated the severity of the crisis. At that time, East Asia as a whole held a large amount of liquidity in the form of reserves, but the region did not have either market or official sector cooperative mechanisms that could have lent some of these reserves to countries experiencing capital account crises.

According to Rhee (2000), deep and liquid domestic and regional bondmarkets could have provided market-oriented mechanisms to overcome crises. In the absence of well-developed regional bondmarkets, however, a large portion of foreign exchange reserves of East Asian countries was held in US dollars or European currency-denominated assets. The bulk of these were then recycled back to East Asia in the form of short-term bank loans denominated in US dollars, in the absence of efficient domestic bondmarkets. This pattern of

capital flows—importation of safe assets and exportation of short-term risky assets—made the region vulnerable to speculative attacks before the crisis. This pattern has changed little since the 1997–98 crisis. Despite their large holdings of foreign exchange reserves, East Asian economies are still exposed to a high probability of the recurrence of financial crises.

Since the crisis, most East Asian countries have turned from net capital importers to net capital exporters, as they have amassed large amounts of current account surpluses, much of which has been added to their foreign exchange reserves. As a result, total reserve holdings of 13 East Asian economies amounted to US\$1.2 trillion at the end of 2001 (Table 2.1 and Table 2.2). Most of these reserves have been invested in safe and liquid assets such as US Treasury bonds and supranational bonds with relatively low yields. At the same time, East Asian borrowers still rely heavily on short-term bank loans for their foreign financing, paying high risk premiums.

There is no denying that the development of domestic bondmarkets in East Asia should be accorded a high priority on the financial reform agenda as it will contribute to stability and efficiency in the financial sector. However, it should be noted that the existence of a well-developed domestic bondmarket does not necessarily prevent or reduce the severity of a financial crisis. It is also incorrect to argue that the existence of deep and liquid domestic and regional bondmarkets can keep domestic savings and foreign reserves in the region, which in turn can be channelled to financing investment of East Asian corporations or can provide the region with a protective shield against speculative attacks and financial crises.

Domestic bondmarkets and financial stability

As has been argued by many, including Krugman (1998) and Aghion, Bacchetta and Banerjee (2001), the 1997–98 East Asian crisis can be characterised as a twin crisis where a speculative attack on the currency, aggravated by a squeeze on bank liquidity, developed into a full-blown economic crisis. In fact, incentive distortions in the bank-dominated financial system were at the bottom of the East Asian crisis. Implicit government guarantees on bank deposits and use of banks as an instrument of industrial policy had bred the moral hazard syndrome of over-borrowing and over-investment before the crisis. Once the crisis unfolded, many bank loans became non-performing.

In these bank-dominated economies, banks also served as the main channel through which foreign banks and non-bank financial institutions lent to local borrowers in East Asia. Once the amount of non-performing loans started ballooning and the fear of currency depreciation set in, foreign lenders began cutting off credit lines and refusing to rollover their short-term loans to the

East Asian banks. When the banks were unable to service their foreign currency loans, they became insolvent, precipitating a major financial crisis. The banking crisis proved to be even more devastating than otherwise thought—the firms that had depended on bank loans could not find alternative sources of financing.

Many observers argue that had there been efficient domestic bondmarkets, investors' locked-in bonds (both domestic and foreign) could not have left East Asia as hurriedly as they did. Institutional investors, who constitute the majority of buyers of sovereign as well as corporate bonds, tend to hold bonds in their portfolios until maturity. In particular, they will not sell bonds they hold if they are going to incur large capital losses. Even if they sell the bonds, some other investors will have to hold them until maturity. This means that the reversal of capital flows would be relatively small and the depletion of foreign reserves would be equally small even when financial panic sets in.

When the prospects for East Asian economies were as bleak as they were at the beginning of the crisis, it is hard to believe that investors would have held on to the bonds in their portfolios, knowing that their capital losses would mount with the deepening of the crisis.

When a liquidity crisis occurs, it is reasonable to assume that much of reserves would evaporate very quickly, no new international financing including trade credits from short or long-term financial markets would be available, and long-term bonds outstanding would be degraded to a junk-bond status. Foreign creditors, knowing that foreign reserves would deplete as soon they paid for imports, would demand repayment as soon as their foreign-currency denominated obligations matured. If a country is known to suffer from an insolvency crisis, then the share of long-term bonds in its total foreign debt will not make much difference in preventing the crisis.

A recent report by the International Monetary Fund's Independent Evaluation Office (2003) argues that the underdevelopment and closedness of bond and short-term money markets exacerbated the 1997–98 crisis. The absence of the long-term bondmarket, and the short-term money market, open to foreign investors meant that high interest rate policy would not be effective in arresting the decline in the exchange rate and stabilising the market. Foreign entities did not have many investment instruments through which to invest in local currency-denominated assets. Therefore, a policy of higher interest rates could not stabilise the local currency by increasing the cost of speculation against them, given that there was no evidence that speculators were taking large short positions in the local currency.

The crisis-hit countries were facing increased demand for liquidation of foreign currency claims rather than a speculative currency attack at the

Table 2.1 Foreign reserve holdings in East Asia, 1993–2002 (US\$ billion)

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
China	22.39	52.91	75.38	107.00	142.70	149.10	157.70	168.20	215.60	286.41
Indonesia	11.26	12.13	13.71	18.25	16.59	22.71	26.45	28.50	27.25	31.57
Korea	20.23	25.64	32.68	34.04	20.37	51.97	73.99	96.13	102.70	120.81
Malaysia	27.25	25.42	23.77	27.01	20.79	25.56	30.59	29.52	30.47	34.58
Philippines	4.68	6.02	6.37	10.03	7.27	9.23	13.23	13.05	13.44	16.06
Singapore	48.36	58.18	68.70	76.85	71.29	74.93	76.84	80.13	75.37	81.37
Thailand	24.47	29.33	35.98	37.73	26.18	28.83	34.06	32.02	32.35	38.92
Hong Kong SAR	42.99	49.25	55.40	63.81	92.80	89.65	96.24	107.50	111.10	..
Japan	98.52	125.80	183.20	216.60	219.6	215.40	286.90	354.90	395.10	451.46

Source: International Monetary Fund, *International Financial Statistics*, International Monetary Fund, Washington, DC.

Table 2.2 Shares of East Asian reserve holdings in world, 1993–2001 (US\$ billion)

	1993	1994	1995	1996	1997	1998	1999	2000	2001
Total reserves in Asia		412.20	520.70	617.90	649.30	701.90	837.50	957.00	1,061.21
Total reserves in World	994.10	1,142.80	1,361.80	1,537.70	1,602.10	1,651.20	1,975.80	2,105.80	2,201.10
Reserves in Asia/World (%)	31.73	36.07	38.23	40.19	40.53	42.51	42.39	45.45	48.21

Source: International Monetary Fund, *International Financial Statistics*, International Monetary Fund, Washington, DC.

beginning of the financial crisis. At the height of the crisis, however, it was not clear whether any level of interest rates offered by East Asian borrowers would have been high enough to induce foreign banks to roll over their loans. In view of the preceding argument, it is difficult to lay the blame for the crisis entirely on the absence of open local bondmarkets.

Regional bondmarkets: exporting risky assets and importing safe assets

There is a widespread presumption that the existence of well-developed regional bondmarkets in Asia would tend to reduce the share of foreign assets denominated either in the US dollar or the euro in East Asian, foreign reserve portfolios, and hence Asian savings, will remain in Asia to finance investment in the region. This presumption reflects the misunderstanding of the determinants of inter-regional capital flows between Asia and the rest of the world. There is also the misconception that well-developed Asian bondmarkets will be less susceptible to external shocks, as the majority of market participants will be Asian investors and borrowers.

If regional bondmarkets can exist in East Asia, it is possible that East Asian investors will hold a larger proportion of Asian bonds than their foreign counterparts. The predominance of regional investors in Asian bondmarkets may then have different implications for stability of financial markets in the region.

Since participants in Asian bondmarkets have access to better (and more) information on the economic policies of individual countries for the region's corporations, it is conceivable that they would be less prone than investors from outside the region to irrational panic and bank-run syndrome in managing their investments. The market participants would also be better positioned to identify 'unsound' firms and to differentiate systematic from non-systematic risks. If most of the risky East Asian securities are held by investors from the region, then one could argue that the degree of reversal in capital flows would tend to be smaller in a crisis situation. This improvement in the quality and quantity of market information for portfolio investment in regional bond instruments will then help ward off contagion of a financial crisis and moderate volatility in financial prices in the region. While this may be true in theory, the evidence does not support differences in behaviour between Asian and European or American investors.

Knowing that their withdrawal could set off a crisis and victimise themselves, Asian investors, unlike investors from outside of the region, will be more calculating in pulling their investments out of the region. The proponents of the Asian Bond Markets Initiative suggest that prudence in risk management and possibly regional altruism will help stabilise inter-

regional as well as intra-regional capital movements, thereby setting up a sturdy shield against financial crisis and speculative currency attacks. It is an open qualification whether Asian investors are less inclined to speculate on Asian bonds, equities and foreign exchange than western investors.

However, the experience with the 1997–98 crisis does not necessarily support this argument. Suppose that there existed an Asian yen bondmarket before the crisis. Would such a market have prevented a crisis or made the consequences of such a crisis less painful? It would not have, because investors in both regional and global markets are likely to have the same pattern of behaviour as far as their credit risk management is concerned. In fact, there is little difference in terms of the demand for bonds between the Asian yen and other global bondmarkets in that investors in these markets buy only high quality investment-grade bonds. A large amount of bond financing relative to bank financing could have made East Asian economies less vulnerable to speculative attacks, but it is not clear whether the size of the Asian yen bondmarket would have made any difference in lessening financial vulnerability of the region.

If indeed access to better and more country-specific, as well as firm-specific, information is as important as claimed, East Asian investors should have been much more restrained than investors from outside the region in withdrawing their investments during the 1997–98 financial crisis. In particular, it was widely held that the crisis-hit countries suffered a liquidity, not an insolvency, crisis. This was not the case. Indeed, the lending behaviour of Japanese banks was hardly different from that of western banks during the crisis period, so the argument based on differences in the quality of information accessible to regional and western investors does not necessarily hold.

In fact, the construction of regional bondmarkets will not change the pattern of inter-regional capital flows in East Asia in which East Asian economies import mostly safe capital from, and export risky capital to, the United States and Europe. In any given year, change in the total amount of bonds and other securities issued by US and European corporations and government that are held by East Asian governments in the form of foreign reserves and also by private investors is largely determined by macroeconomic conditions governing current account developments in East Asia, the United States and Europe. As long as East Asia as a whole continues to run current account surpluses as it has in the past, in particular *vis-à-vis* the United States, then either the government or the private sector in Asia is bound to accumulate US and European securities. An increase in the diversity and depth of Asian bondmarkets will not necessarily increase the share of Asian bonds in the aggregate East Asian asset portfolio, as long as East Asia remains a capital exporting region.

An increase in the supply of Asian bonds, in particular East Asian sovereign and high-quality private bonds, and the expansion of the secondary markets for these instruments could over time reduce the share of US dollar and euro-denominated securities in the foreign reserves of East Asian countries. However, as long as the current account imbalances between East Asia and the rest of the world persist, a decrease in the share of US and European securities in the reserve portfolios will be made up for by an equal increase in private holdings of these securities.

Regional bias in portfolio investment

Regional bias in portfolio investment, if it is pronounced, may provide justification for creating Asian bondmarkets. Although there is dearth of information, it is reasonable to assume that East Asian governments, corporations and individual savers have taken advantage of capital market liberalisation to place in part their funds in bonds and equities issued by East Asian borrowers with which they are familiar. McCauley, Fung and Gadanecz (2002), for instance, show that the aggregate amount of bonds issued by East Asian borrowers over the three-year period from April 1999 to August 2002 amounted to US\$41.2 billion; East Asian investors then bought up 46 per cent of these primary issues. East Asian governments and government agencies issued more than 40 per cent of these bonds.

McCauley et al. present the East Asian share of the primary market distribution as evidence of a relatively high degree of integration among East Asian capital markets. Crockett (2002) makes a similar argument. In gathering these data, McCauley et al. admit, 'we solely rely on second-hand reports from underwriters that are at best approximation' (2002:84).

Aside from their quality, we believe their data could not identify the final buyers of these East Asian bonds. It is quite possible that East Asian financial institutions, as well as subsidiaries of foreign investment banks, purchased the bonds and brokerage houses located in Hong Kong SAR, Singapore and Tokyo and purchased the bonds for their investors from America and Europe. It is in general difficult to ascertain whether residents in one country buy bonds issued by the entities in their own country or whether they buy bonds issued by borrowers in other countries.²

However, there is a piece of evidence that casts doubt as to the ownership composition of McCauley et al. (2002). Japan—the largest exporter of capital of the world—has acquired more Latin American bonds than Asian bonds in recent years. In 1996, the share of Asian bonds in the total overseas portfolio investment of Japan was 3.2 per cent as opposed to 8.3 per cent for Latin

Table 2.3 Foreign holdings of Korean securities, 1999–2002 (hundred million won)

	Market capitalisation		Foreign holdings		Ratio of foreign holdings(%)	
	Stock	Bond	Stock	Bond	Stock	Bond
1999	3,495,039	3,644,186	765,905	11,567	21.9	0.31
2000	1,880,414	4,236,835	565,585	6,921	30.1	0.16
2001	2,558,500	5,047,298	936,982	4,293	36.6	0.09
2002	2,586,807	5,639,436	931,607	6,466	36.0	0.11

Source: Financial Supervisory Service, Korea.

America; by 2001, the Asian proportion fell to 1.3 per cent (14.1 per cent for Latin American bonds). Between 1999 and 2001, Japanese holdings of Asian bonds fell by 250 billion yen (US\$200 million) (Table 2.3).

Questions then arise as to the identity of those investors from East Asian economies who invested in 46 per cent of primary issues of East Asian paper between 1999 and 2002 as claimed by McCauley et al. (2002). Since investors from East Asian countries, including Japan, have expressed a preference for safe assets, it is difficult to believe that residents of Hong Kong SAR, Singapore and Korea bought more East Asian bonds than Japanese investors during the same period.

Crockett (2002) argues that East Asia has been importing safe assets while exporting risky ones. Foreign direct investment, portfolio equity, bad loans and bonds are risky East Asian assets acquired by American and European investors. East Asian investors, on the other hand, have been importing low risk securities such as US Treasury bonds, US agency paper and interbank deposits. If East Asia has been importing safe assets and there has been a limited variety and quantity of safe bonds issued by East Asian borrowers, then it is difficult to accept the data provided by McCauley et al. (2002) or Crockett's argument that among the buyers of East Asian bonds, East Asian accounts take almost half of the issues which are relatively more risky assets than US bonds.

In general, foreign reserves are held in safe and liquid assets. Much of the increase in East Asia's holdings of safe foreign assets corresponds to the massive increase in its foreign reserves. East Asian institutional investors have been relatively more risk averse than their US and European counterparts largely because they have not developed or acquired sophisticated risk management technologies and have limited access to information about global,

as well as regional, borrowers. Many of the financial institutions of East Asian emerging market economies became highly vulnerable to financial crisis, and some of them went bankrupt, as a consequence of the poor risk management of their asset portfolios, leading to large investments in risky bonds issued by other emerging market economies' borrowers. The lessons of the 1997–98 crisis and the subsequent tightening of regulations on assets management have made East Asian investors more conservative in managing risk of their asset portfolios, but they may have a long way to go before reaching the global standard of risk management.

This aversion to risk is seen in the large increase in East Asia's demand for US government and government agency bonds in recent years and reduced share of Asian securities in the Japanese aggregate investment portfolio. While the percentage of East Asian equities and bonds in the Japanese aggregate portfolio declined substantially, the share of capital market instruments issued by US and European entities rose to 90 per cent of total foreign assets held by Japan in 2000 and 2001.

Asian bondmarkets: complementary to global bondmarkets

International bondmarkets, such as the Yankee and Eurobond markets, are not readily accessible to most East Asian borrowers because of their low credit ratings. In order to issue bonds in international bondmarkets, issuers need to get investment-grade ratings from international credit-rating agencies. Most institutional investors in these markets, including pension and investment funds, are operating under the mandate that, to be included in their portfolio, bond issues must be rated by international credit-rating agencies and that they must have investment grades. Only a limited number of East Asian corporate issuers have been able to obtain investment grades from international credit-rating agencies, although investment-grade ratings can be obtained from domestic rating agencies.

There is usually a large gap between ratings on domestic corporations acquired from domestic credit-rating agencies and their international foreign currency ratings acquired from global credit-rating agencies. This gap originates in the bias that international foreign currency ratings are restricted by the sovereign ratings of the countries where the corporations are located. In general, sovereign issuers get the highest credit rating (AAA or its equivalent) when domestic currency bonds are rated by local credit-rating agencies. However, international bonds denominated in foreign currencies are usually given lower credit ratings. Many East Asian government issues, excluding those of Hong Kong SAR, Japan and Singapore, belong to the sub-investment

grades or the lower range of the investment grades. This means that their corporate issuers are likely to belong to the sub-investment grades when rated by international credit-rating agencies, which in turn means that they do not have independent access to international bondmarkets.

The Yankee and other foreign bondmarkets impose even stricter disclosure rules and public offering requirements than the Eurobond market. Most Asian corporate issuers do not have access to the Samurai bondmarket under the current regulation. As a result, there is certainly a case for regional bondmarkets if these markets can accommodate bond financing of some of East Asian local issuers with low or no credit ratings with attractive costs.

Asian bondmarkets could be structured to accommodate many Asian corporate bonds with a medium grade or belonging to the upper range of the sub-investment grades such as BBB, BB and B, thereby making them complementary to global bondmarkets. Once these markets for bonds denominated in key regional currencies are established, it is also expected that regional financial derivative markets for currency swaps and options will come into existence to facilitate the issuance of bonds denominated in the local currency for many East Asian emerging market economies. The development of these markets will then help ease the currency mismatch problem.³

The regional Bond Markets Initiative promoted by the ASEAN+3 could reduce the credit quality gap as it will encourage creation of regional credit-rating agencies specialised in rating East Asian corporate issuers. This regional specialisation may uncover more creditworthy regional borrowers than global rating agencies because regional agencies will be better informed about regional economies, social and political developments and have more resources to gather and analyse firm specific information resulting in regional ratings having to rely less on the sovereign ratings of the economies where these East Asian firms are domiciled.

Asian bondmarkets could also provide an opportunity for cross-border bond financing to smaller East Asian countries with underdeveloped financial sectors. Except for Japan and China, smaller East Asian countries may find it difficult to develop domestic bondmarkets that are broad and deep in terms of the variety of instruments available and market participants, since these economies are relatively small in size.

Asian bondmarkets may support large capital markets with scale economies and cost competitiveness. The costs of constructing financial and other institutional infrastructures required for supporting domestic bondmarkets could be prohibitively expensive to many emerging market and developing economies in the region. Unless local bondmarkets are competitive in terms of the cost of borrowing, local borrowers would avoid bondmarket

financing in favour of bank financing. Sovereign, as well as corporate, borrowers from these financially underdeveloped countries have little or no access to global bondmarkets.

The regional initiative for the creation of Asian bondmarkets could contribute to the development of more balanced financial systems with efficient bondmarkets in East Asia in two ways. The growing competition among the East Asian countries to host as regional bond trading centres will generate incentives for them to deregulate and open domestic bondmarkets to increase the investor base and liquidity of these markets.

Other countries may also remove restrictions on bond financing and capital account transactions so that their residents could take advantage of regional bondmarkets as an additional source of financing. For those smaller economies with underdeveloped financial systems, regional bondmarkets could serve as substitute for domestic bondmarkets.

A critical evaluation

Several proposals have been made regarding the strategies for, and modalities of, creating Asian bonds and Asian bondmarkets (Chaipravat, Supapol and Sangsubhan 2003, Ito 2003, Oh and Park 2003). These proposals are designed to alleviate the two mismatch problems: the maturity mismatch and the currency mismatch that have plagued East Asian corporations and financial institutions.

All of these proposals advocate the use of structured financing, like securitisation, as a means to overcome the maturity mismatch problem. In order to further increase the marketability of Asian bonds, the use of credit enhancement mechanisms such as credit guarantees and the establishment of the Asian Bond Bank are also recommended. Ito (2003) and Chaipravat et al. (2003) propose the issuance of currency basket bonds to overcome the currency mismatch problem. Oh and Park (2003) argue that the development of currency swap arrangements would be a better strategy to enable East Asian borrowers to raise funds in their own local currency. The following section evaluates these proposals.

Narrowing the maturity and credit quality gap

Since the maturity mismatch problem arises mainly from the credit quality gap, it can be resolved by enhancing the credit quality of the securities to the level acceptable to investors. The credit quality gap could in turn be reduced through structured financing schemes like securitisation, and credit enhancement and credit guarantee.

Securitisation

Securitisation is a form of structured financing in which securities are issued through repackaging a series of assets that generate cash flows in a way that separates these assets from the credit profile of the company that originally owned them. Securitisation can take on a large variety of attributes depending on the structure, underlying assets, the way underlying assets are managed and the types of securities issued.

Potential benefits of securitisation include cost efficient funding, credit risk mitigation, diversification of funding sources, tenor and currency management. In the majority of cases, the real motivation for securitisation is more likely to be risk mitigation and de-leveraging of the balance sheet at the cheapest cost rather than just access to cheap funding.

Securitisation is useful in resolving the maturity mismatch problem in several ways. The true sale nature of the securitisation deal allows the creditworthiness of the asset-backed securities to be independent of the creditworthiness of the company that originally owned the underlying assets. The credit assessment of asset-backed securities is made solely on the basis of the cash flows created by the underlying assets. In addition, securitisation schemes such as collateralised bond obligations and collateralised loan obligations can reduce the overall credit risk of the pool of collateralised bonds by diversifying the idiosyncratic credit risk of each borrower. This coinsurance effect from pooling debt instruments, issued by companies with different risk profiles, enables the collateralised bond obligation scheme to raise more funds than the sum of the funds each company can raise by itself.

Despite the benefits from credit risk diversification and coinsurance, securitisation by itself cannot remove the credit risk of underlying securities. Instead, it enables the issuers to sell the credit risk at a lower cost. It reduces the overall cost of raising funds by creating securities whose credit risk profile is tailored to the risk preferences of the customers. In particular, bonds with a higher credit rating than the underlying assets can be issued by using the senior/subordinate tranches. Generally, senior bonds can receive credit ratings higher than the collateralised assets, and hence can be absorbed by the corporate bondmarket.

In addition to senior/subordinate tranching, other credit enhancement methods such as over-collateralisation, spread accounts, cash collateral accounts, credit swaps and credit guarantees can be used to enhance the creditworthiness of the asset-backed securities and make them attractive to even a greater range of investors.

An example of the use of securitisation to promote Asian bondmarkets is the two-tier securitisation scheme for financing small and medium enterprises

Figure 2.1 Two-tier securitisation scheme for small and medium enterprise financing

Source: Oh, G. and Park, J., 2003. Fostering Asian bond markets using securitization and credit guarantee, presentation at the Voluntary Working Group Meeting on the Asian Bond Markets Initiative, Tokyo, 16 June.

suggested by Oh and Park (2003). This securitisation scheme consists of two steps of the securitisation process: the first step in each of capital importing countries and the second in the capital exporting country (Figure 2.1).

In the first step, a local special purpose company is set up in each of the capital importing countries to securitise small and medium enterprises loans or bonds. The loans and bonds to be collateralised may be denominated in the local currency in order to eliminate the currency mismatch problem. In order to minimise the problem of moral hazard, the junior tranche bonds will be assumed by local institutions that are in charge of selecting the firms to be included in the collateralised loan obligation or collateralised bond obligation pool. The senior tranche bonds are sold in the local bondmarkets and the remainder will be transferred to the second special purpose company established in the capital exporting country. The senior tranche bonds may be guaranteed by the local credit guarantee agency to increase their marketability.

In the second step of the securitisation, the special purpose company established in the capital-exporting country-issues collateralised bond obligations using the senior bonds it acquired from the special purpose companies located in capital importing countries. Once again, different tranches of bonds will be issued to better fit the preferences of investors. In order to further enhance creditworthiness and marketability, the senior tranche bonds may acquire credit guarantees.

The securities issued by the special purpose company can be denominated in one of the international vehicle currencies, in the currency of the capital abundant East Asian country, or in the basket currency unit. The list of underlying assets can be expanded to government bonds, non-performing assets and corporate bonds.

There are, however, a few stumbling blocks in using securitisation schemes to develop Asian bondmarkets. One barrier is that the legal framework facilitating securitisation differs widely among East Asian economies. World Bank (2002) recognises wide differences in the legal framework regarding securitisation. For example, while the common practice of Hong Kong SAR, Singapore and Malaysia to acknowledge trusts already provides the institutional foundation required for securitisation, civil law countries need to enact the securitisation law that recognises the pass-through status of the special purpose companies and the true sale nature. Another barrier is the different accounting standards and tax treatments for special purpose companies in different countries. With the exception of Japan, Korea, Hong Kong SAR and Singapore, issuers and investors are not familiar with securitisation schemes. Availability of previous records or historical data is also an important factor for the success of securitisation deals.

Credit guarantees

Many Asian bonds are likely to belong to the junk bond category by the standard of the international bondmarket. A large number of East Asian firms do not have credit ratings good enough to issue bonds in the domestic bondmarket let alone international bondmarkets. As a result, even in the securitisation scheme, the amount of funds that can be raised through senior bonds is likely to be quite limited. In order to increase the portion of securities that can be absorbed by the market, credit guarantees can be utilised. Credit guarantees on timely payment of interest and principal enhance the creditworthiness of bond issues because issues with a full credit guarantee can acquire the credit rating of the guarantee agency. Credit guarantee agencies may provide coverage for the entire issue or a specific tranche.

Credit guarantees can be obtained from private credit guarantee agencies like mono-line insurance companies and multi-line insurance companies, government agencies and international financial institutions. However, the existing credit guarantee agencies may not be suitable for providing credit guarantees for regional bonds. For example, the Japan Bank for International Cooperation (JBIC) cannot provide credit guarantees on corporations or special purpose companies. The JBIC can only guarantee bonds denominated in the Japanese yen. The Asian Development Bank and the JBIC are restricted from

providing guarantees to bonds issuers from advanced economies. As a result, regional securitisation deals involving issuers from Japan or Korea cannot obtain credit guarantee services from these official sector agencies.

Private credit guarantee agencies in general prefer dealing with credit risk alone and as a result are reluctant to provide currency swaps together with credit guarantees while more effective schemes for regional bonds may require currency swaps to overcome the currency mismatch problem in addition to credit guarantees. Private guarantee agencies might also have limited capacity to provide guarantees.

In order to provide credit guarantee services for Asian bondmarkets more efficiently, it would be useful to establish an international organisation to provide regional credit guarantees. The operational mode (mono-line or multi-line) and the governance structure (an international agency or a private company) need to be discussed and negotiated. The regional guarantee agency may also provide currency swaps.

Resolving the currency mismatch

Depending on the types of bonds and market arrangements to be created, regional bondmarkets could assist issuers to overcome the currency mismatch problem, although they will not provide a solution. This section evaluates proposals for resolving the problem of currency mismatch in the context of regional bondmarkets.

Currency basket bonds

Chaipravat et al. (2003) and Ito (2003c) propose issuance of currency basket bonds as a way to overcome the currency mismatch problem. For example, Asian basket currency (ABC) bonds as suggested by Ito are constructed as bonds backed by a mix of local currency government bonds issued by East Asian countries. The value of the ABC bonds will therefore be determined by the weighted value of the currencies comprising the basket.

While, in theory, currency basket bonds could moderate the currency mismatch problem, it is not clear that international investors are willing to hold such bonds. Currency basket bonds might be acceptable to international investors as they help to diversify currency risks. The size of the benefit from diversification depends on the degree of correlation among the underlying currencies. East Asian currencies tend to be positively correlated with each other, suggesting that the diversification effect of the currency baskets comprising East Asian currencies alone might not be large enough to attract investors (Table 2.4). Moreover, the correlation between the East Asian currencies increases in times of turbulence like the 1997–98 East Asian crisis due to the contagion effect, further reducing the diversification benefit.⁴

Table 2.4 Correlation between East Asian currencies

November 1995–June 2003							
	KRW	IDR	MYR	PHP	SGD	TWD	JPY
KRW	-	-	-	-	-	-	-
IDR	0.4742	-	-	-	-	-	-
MYR	0.4586	0.6582	-	-	-	-	-
PHP	0.5284	0.6494	0.7143	-	-	-	-
SGD	0.4703	0.6998	0.6824	0.6184	-	-	-
TWD	0.4774	0.4737	0.4966	0.5082	0.6231	-	-
JPY	0.2834	0.2323	0.2692	0.2248	0.5244	0.4819	-
January 1997–December 1998							
	KRW	IDR	MYR	PHP	SGD	TWD	JPY
KRW	-	-	-	-	-	-	-
IDR	0.5000	-	-	-	-	-	-
MYR	0.4712	0.7022	-	-	-	-	-
PHP	0.5672	0.7110	0.8170	-	-	-	-
SGD	0.5035	0.7247	0.8176	0.7555	-	-	-
TWD	0.4815	0.5740	0.5918	0.5462	0.7555	-	-
JPY	0.2153	0.3490	0.3968	0.3204	0.6043	0.5490	-
January 1999–June 2003							
	KRW	IDR	MYR	PHP	SGD	TWD	JPY
KRW	-	-	-	-	-	-	-
IDR	0.2337	-	-	-	-	-	-
MYR	0.0148	0.0332	-	-	-	-	-
PHP	0.3732	0.3772	0.1265	-	-	-	-
SGD	0.3638	0.6429	-0.0558	0.2449	-	-	-
TWD	0.5142	0.1502	-0.0189	0.3938	0.3378	-	-
JPY	0.5962	0.0581	-0.0192	0.1308	0.4760	0.4428	-

Source: Authors' calculations.

In order to examine the magnitude of the diversification effect, a few examples of currency baskets comprising East Asian currencies will be constructed and their variability compared with that of the major currencies. The currency basket comprising the six East Asian currencies—the Korean won, the Chinese yuan, the Malaysian ringgit, the Thai baht, the Hong Kong dollar and the Singapore dollar—shows higher volatility than the Japanese yen (Figure 2.2). The result does not change even when additional currencies such as the Indonesian rupee, the Philippine peso and the Japanese yen are included (Table 2.5).

Another problem with the currency basket bond is that the cost of monitoring movements in several currencies may reduce the diversification

Figure 2.2 Asian currency basket versus the Japanese yen, 1993–2002

Source: Pacific Exchange Rate Service. Available online at <http://fx.sauder.ubc.ca>.

benefit. The high monitoring cost may be the reason why the World Bank currency pool loan was phased out and replaced by the single currency loan due to lack of demand. It also explains why ECU-denominated bonds were not very popular.

One could argue that currency speculators who expect appreciation of the currencies comprising the basket will be induced to hold the currency basket bonds. However, since the currency composition of these bonds are fixed, currency speculators cannot change the composition even when bilateral exchange rates of the underlying currencies are expected to change. In general, currency speculators are likely to prefer managing their own currency risks. This means that as far as speculators are concerned, they would prefer holding a portfolio consisting of bonds denominated in different currencies than currency basket bonds. If the Asian currency unit is widely accepted as a unit of accounting and the exchange rate policies of East Asian countries can be coordinated, then there will certainly be a larger demand for currency basket bonds.

Currency swaps

The issuance of Asian bonds denominated in a variety of East Asian local currencies will be facilitated if swap markets for these currencies are established. For those economies with a well-developed swap market, issuing

bonds denominated in the local currency would be possible and cost effective. For a currency without a developed swap market, questions arise as to whether the official sector should step in to provide swap arrangements or to develop infrastructures for the swap market. The official intervention may contain an element of subsidisation to the extent that the official swap provider takes the risk of unhedged swap positions at a price below the market level. To counter this view one could argue that the underdeveloped swap market is a public good which may justify the intervention in its development.

Credit enhancement and currency tranching

Credit enhancement and securitisation could assist in removing some of the risk related to the currency mismatch in balance sheets of corporations and

Table 2.5 Standard deviation of the rate of currency depreciation, 1993–2003

	Jan. 1993–Jun. 2003	Jan. 1998–Jun. 2003
United Kingdom	1.760	1.666
Japan	2.889	2.843
Index ^a	4.699	2.699
China	4.466	0.009
Hong Kong SAR	0.524	0.024
Malaysia	2.820	2.167
Singapore	1.487	1.601
Korea	4.825	2.756
Thailand	3.904	2.975
	Nov. 1995–Jun. 2003	Jan. 1998–Jun. 2003
United Kingdom	1.692	1.666
Index ^b	6.768	5.207
Index ^c	3.215	2.210
China	0.040	0.009
Hong Kong SAR	0.036	0.024
Malaysia	3.188	2.167
Singapore	1.636	1.601
Korea	5.643	2.756
Thailand	4.561	2.975
Japan	2.718	2.843
India	1.184	0.795

^a Korea, Thailand, China, Malaysia, Hong Kong SAR, Singapore.

^b = ^a + Philippines + Japan

^c = ^b + India

Source: Authors' calculations.

financial institutions. If the credit risk associated with currency basket bonds can be removed through credit guarantees, then investors will be more willing to hold them despite the currency risk, because the investors can then focus on managing the currency risk. Eliminating the credit risk makes it easier for investors to evaluate and price the risk they take more accurately.⁵

The use of currency tranching in securitisation may also be useful in mitigating the currency mismatch problem if there is a substantial demand for each currency tranche. Suppose that collateralised bond obligations are issued on the collateral of won and baht-denominated bonds. Three currency tranches may be created by securitisation: the yen-denominated bonds, the currency basket bonds denominated in the Korean won and the Thai baht and the bonds with claims on the remaining cash flows. Investors purchasing the third tranche bonds are taking a short position on the Japanese yen and a long position on the currency basket of the Korean won and the Thai baht. It means that the investors purchasing third tranche bonds can expect the same return on investment in bonds denominated in Korean won and the Thai baht, financed by a yen loan. When the yen appreciates against the won and the baht, the return on third tranche bonds will be low or even negative. The effectiveness of the currency tranching in resolving the currency mismatch will, in the end, depend on whether there is an enough demand for such an investment position.

Although there is no denying that the methods introduced so far have, in theory, some potential to minimise the currency mismatch problem it is doubtful that they would be effective in reality. The most effective, and realistic, way of dealing with the currency mismatch is to encourage foreigners to invest in local-currency denominated bonds in domestic bondmarkets. Therefore, improving bondmarket infrastructure and removing institutional bottlenecks to increase foreign investment in domestic bonds needs to be a priority of financial reform.

A road map for the development of regional bondmarkets

A market-led evolutionary process

The discussion so far suggests that a number of regional bondmarkets differentiated in terms of the issuing currency would emerge in the course of financial liberalisation and integration in East Asia. Several countries aspiring to be regional financial centres have already taken steps to open their domestic bondmarkets to foreign borrowers or to create an offshore market. Competition among these markets will ensue and both borrowers and investors will migrate

to the markets with the most efficient payment and settlement system, thereby creating regional financial centres.

However, few Asian emerging market economies could issue bonds denominated in their own currencies while these countries do not allow non-residents to hold their currencies. It is conceivable that Asian bonds denominated in an Asian currency unit—a composite of regional currencies weighted by their relative economic importance—could be created through a regional cooperative scheme. However, it is not clear if there will be any demand for this type of bond.

In developing regional bondmarkets, East Asian countries could take either a market-led or government-led strategy. The market-led or evolutionary approach relies more on competition among the countries attempting to transform their domestic capital markets into regional markets. In this approach, the involvement of, and cooperation amongst, East Asian governments would be confined to developing financial, legal and regulatory infrastructures and harmonising the market regulation and provided at the regional level. A more direct government-led strategy requires active participation on the part of East Asian governments, in addition to building financial and other institutional infrastructures, in diversifying the menu of bondmarket instruments by issuing multiple categories of government bonds and introducing schemes of credit guarantee and enhancement, and securitisation. The official sector may also support the creation of regional rating agencies.

Although the policy authorities of Japan, Korea and Thailand have been reviewing several strategies for developing regional bondmarkets, it is not likely that they would be able to agree on any single strategy. Even if a strategy was agreed, it is not clear whether it could be implemented. Since the interests of these countries in promoting the Asian bond initiative are different and they are all competing to host a regional trading centre, negotiations for a common development strategy would be a drawn-out process. If an Asian bondmarket is to take off, Asian bonds, sovereign or corporate, will need to be tailored to the preferences of private and institutional investors in terms of maturity and credit quality. This is because at the early stage of the bondmarket's development, institutional investors, including various types of investment funds, insurance companies and investment banks, are likely to dictate what types of bonds can be issued and traded. These investors will also promote healthy competition and the construction of regional financial infrastructures.

In order to develop the regional bondmarkets, these market participants will have to be involved in the planning stages and the role of the official

sector in this process will be supportive of removing impediments to market development. For these reasons, ASEAN+3 will be better advised if they follow a market-oriented approach.

If Tokyo, Hong Kong SAR and Singapore want to develop their domestic bondmarkets into regional bondmarkets, or to create offshore international bondmarkets, then it is their business to attract borrowers and investors by offering a low cost of issuance. In order to serve as a fully-fledged financial centre, these countries will have to create a variety of market-supporting institutions together with insurance and financial derivative markets. Out of necessity, they will also lead the construction of regional financial infrastructures in East Asia.

Domestic financial reform

Historical experiences show that financial development in general proceeds from simple lending and borrowing arrangements to a system dominated by commercial banking and eventually to a broader system complemented by a variety of non-bank financial institutions and money and capital markets. Thus, in most developing economies, largely because of problems related to lack of information and inefficient legal systems, capital markets for primary securities such as stocks, bonds, mortgages and commercial bills are insignificant channels for mobilising and allocating savings. Therefore, for all practical purposes, the banking system—broadly defined to include a variety of depository institutions—dominates the financial system and is usually the only organised credit market available.

Empirical studies also support this evolutionary process of financial development. According to Demirguc-Kunt and Levine (2001), national financial systems tend to become more market-oriented as countries become richer. In higher income countries, they show that financial systems are more developed, with stockmarkets becoming more active and efficient relative to banks. One plausible explanation for the evolutionary process is provided by a legal approach to the determination of financial structure and financial development. According to the legal approach, financial contracts are well defined and are effective by virtue of rights and enforcement mechanisms. Therefore, it follows that a well-functioning legal system facilitates and improves the operation of both financial institutions and markets (La Porta, Lopez-de-Silanes, Shleifer and Vishny 1999).⁶ In a recent paper, Levine (2000) shows that the legal rights and effectiveness of contract enforcement is strongly associated with long-run growth: the legal system is a crucial determinant of financial development. In another empirical paper, Levine, Loayza and Beck (2000) show that the legal rights of investors, the efficiency of contract

enforcement and accounting systems help to explain cross-country differences in the level of financial development.

One important implication of the legal approach to finance is that countries with a tradition of English common law tend to have market-based financial systems which stress the rights of minority stockholders. Other legal origins such as French and German civil law systems are associated with underdeveloped and bank-based systems. For example, the German system, which stresses creditors' rights to a much greater degree than other systems, generates beneficial repercussions for financial intermediary development. Countries with weak accounting standards and explicit or implicit deposit insurance systems are likely to have bank-based financial systems. Among the advanced economies, Germany and Japan have a bank-based financial system with Japan's legal system being modelled on the German system. Japan was not known for strong accounting standards (comparable to Anglo-American standards) and had not instituted a formal deposit insurance system until the early 1990s. These legal and other institutional features may explain, in part, the bank-based dominance of the Japanese financial system.

Since most of the East Asian countries, except for Japan, are either emerging markets or developing economies, this evolutionary process of financial development suggests that East Asia's financial systems were, and still are, dominated by banks and other financial intermediaries. In fact, many authors claim that East Asian financial systems that can be characterised as a bank-based system (Aoki 2000, Eichengreen and Hausmann 1999a, Park 1993). It is also widely accepted that for more than three decades preceding the 1997 crisis, most East Asian countries had relied on the banking system as instruments of industrial policy—as the means of mobilising savings and allocating them to strategic industries and favoured projects (Haggard 2000).

The bank-oriented system has largely been responsible for the lack of professional expertise, inadequacy of the financial and legal infrastructures (including regulatory systems) low standards of accounting and auditing, and non-transparency of corporate governance which all have plagued the development of capital markets in East Asia. Efficient and stable regional bondmarkets are not likely to take root unless East Asian economies speed up financial reform, strengthen financial and legal infrastructures, and introduce and enforce international standards for accounting, auditing and governance.

While one can make a case for creating regional bondmarkets in East Asia, such markets will not grow unless domestic financial reform precedes, or is carried out in parallel with, the development of Asian bondmarkets. The first step toward developing regional bondmarkets should begin with domestic

financial reform to remove impediments to issuing and trading in domestic bonds and to build domestic financial infrastructures.

To many East Asian economies, regional bondmarkets will be new sources of foreign currency financing. Unless domestic financial markets and capital account transactions are liberalised, domestic lenders and borrowers will not be able to take advantage of these new sources of financing on regional bondmarkets. Without the active participation of regional investors and borrowers, robust regional bondmarkets will not take root. Region-wide financial and institutional reform will therefore be crucial to nurturing a fertile ground on which regional capital markets can grow.

Domestic financial reform is also necessary to resolve the currency mismatch problem. As noted in the preceding section, regional bondmarkets will not offer a solution to this problem; only effective and domestic bondmarkets open to foreign investors will help East Asian countries avoid the currency mismatch problems.

From the standpoint of the East Asian borrowers, issuing bonds in the regional bondmarket is just one financing option out of several possible alternatives including bank loans and equities. On bond financing alone, East Asian borrowers have access to domestic, international and regional bondmarkets. Then, the question naturally arises as to why local borrowers might prefer cross-border bond financing in East Asia.

When the borrowing cost in the domestic market rises due to an imbalance between the supply and demand for funds, it may be less expensive in terms of the cost and availability of funds to choose cross-border financing, even when the exchange rate risk and other issuing costs are taken into consideration. Imbalances in the demand for, and supply of, different categories of bonds might occur even though there is sufficient investment demand for domestic bonds as a whole. For example, changes in asset preferences such as a flight to quality in the domestic bondmarket may increase the spread on sub-investment-grade bonds. If a similar flight does not take place in international bondmarkets, then cross-border financing may be less costly. Likewise, when the supply of bonds of a particular industry or sector increases substantially, the overall amount of the idiosyncratic risk of these issues may become too large to be borne by the pool of domestic investors alone, and as a result raise their spreads disproportionately. In this case, the issuers can reduce the borrowing cost by dispersing the idiosyncratic risk to the international investor pool where the risk might not be as large as in the domestic market. This risk diversification is similar to the credit default swaps provided by foreign investors.

Nevertheless, in most East Asian economies foreign participation in the domestic bondmarket is restricted or limited for a number of reasons. Foreign

investors often do not have access to these markets due to capital control problems. For example, Korea has an active domestic bondmarket, which has been open to foreign investors since 1997. Yet foreign participation in the domestic bondmarket has been minimal. Foreigners held only 0.11 per cent of total domestic bonds as of end-2002 (Table 2.1), compared to 35 per cent of the stockmarket capitalisation held by foreign investors. This indicates that the bondmarket is, in effect, closed to foreign investors. Regulatory restrictions and the lack of market supporting institutions are often cited as being responsible for the small foreign presence. Furthermore, inadequate accounting standards or practices and improper disclosure requirements have made non-transparent corporate governance of the issuers. Bankruptcy laws and procedures are not reliable. Despite the large volume of outstanding issues, the bondmarket has not been for all practical purposes liquid enough to facilitate foreign investors' bond portfolios.

Taxation is also another factor that discourages foreign investment in local bonds in East Asia. Some countries, including Korea, impose withholding taxes on interest income earned by non-residents as well as that earned by residents, whereas countries like the United States, Japan and Singapore grant non-residents exemption from withholding taxes on interest income. There is no withholding tax on Eurobonds. Despite the tax treaties that avoid double taxation, the tax withholding remains and has been a barrier to cross-border investors.

The lack of availability of hedging instruments such as currency swaps, currency options and forward contracts has also been an impediment to cross-border investors in acquiring East Asian domestic bonds. Because of the paucity of money market instruments and underdevelopment of currency swap markets, foreign investors often find it difficult to hedge against interest rate and exchange rate risks. Even if they are available, the currency swap market is so shallow that even a small change in the supply and demand causes a large swing in swap rates, which in turn may lower significantly the covered return on cross-border fixed-income investments. There are also restrictions on trading these bonds outside their country of issue, which have limited the size of the secondary markets for these bonds.

Perhaps the most serious limitation to foreign presence in East Asia local bondmarkets is that the number of firms qualified to receive an investment-grade rating from global rating agencies is very small. For instance, in Korea, the number is estimated to be less than 31 out of 188 listed corporations that have acquired domestic credit ratings between January 2002 and May 2003.⁷ Since foreign investors, in particular institutional ones, have a strong preference for high quality bonds with low credit risks, the supply of Asian bonds in which foreigners can invest has been very small.

In view of the importance of, and in order to overcome the domestic opposition to, domestic financial reform faced by many of the East Asian countries, multilateral efforts at the regional level are urged to support and facilitate financial liberalisation throughout East Asia. In this regard, the Asian Bond Fund is misguided if it is designed to stimulate the supply of Asian bonds denominated in major currencies. At present, the problem with regional bondmarkets is not the lack of demand; in fact, there is already too much liquidity in these markets. Creditworthy East Asian corporations can issue bonds at low prices and the spread on East Asian corporate bonds is the lowest in the world. Only the financial and institutional reform will bring more high-quality issues into domestic bondmarkets.

The crisis-hit economies in East Asia which received rescue financing with policy conditionality have made considerable progress in reforming their financial systems. However, as the fear of another round of crises has receded and the recovery of these economies, despite the ongoing global slowdown, has been faster than expected, and the domestic opposition by the vested interests has mounted, reform efforts have slowed down and have given way to the *status quo* in these economies.

Furthermore, the two economies which could, and should, provide leadership in managing regional financial integration and cooperation, have been mired in serious banking and other financial problems themselves so that they are in no position to lead region-wide financial reform in East Asia. At present, one cannot find any serious market forces that could sustain their financial reform. East Asian governments do not appear to have either the will or the external pressure to continue with their reform efforts. Now that the crisis is over multilateral financial institutions such as the International Monetary Fund have no clear mandate to oversee reform in these countries. Many proposals for domestic bondmarket development have been made by the World Bank, the Asian Development Bank and the Asia Policy Forum, but they are largely ignored. What is unsettling is that the CMI economies have been preoccupied with Asian bonds while ignoring the need to organising a joint program for supporting financial reform in individual East Asian countries. Without reforms to domestic financial systems, there is a high probability that the Asian Bond Markets Initiative may meet the fate of past regional efforts that did not go anywhere.

Complementary bondmarkets

East Asian borrowers have the option of issuing bonds in local, regional and global bondmarkets. As noted earlier, most of the large corporations that can obtain an investment-grade rating have migrated to global bondmarkets. They

also have access both to global and domestic equity markets. Many small and medium sized firms are not capable of raising capital from either local or regional bondmarkets, although some of them have a good credit record. Who will then raise funds in the regional bondmarkets in East Asia?

Given the preference of institutional investors for quality, there is not likely to be a strong demand for high-yield Asian bonds, so one cannot expect a large increase in the supply of top-grade Asian bonds in the foreseeable future. Many of the issuers who can borrow from these regional markets also have access to global bondmarkets. Since issuing costs are likely to be high at the beginning, there will be few top-grade East Asian firms utilising Asian bondmarkets. These structural constraints suggest that regional markets would have a better chance of survival if they were structured to be complementary to either domestic or global capital markets. Indeed, it would be an erroneous strategy if Asian bondmarkets attempted to lure away creditworthy East Asian borrowers from global bondmarkets.

Regional bondmarkets in East Asia cannot remain separated from global financial markets. With the opening of the financial services industry, foreign investment banks, brokers and dealers will play an important role in developing regional capital markets in East Asia, in particular in forming a critical mass of East Asian issuers and investors. Because of their dominance in supplying capital market services in global financial markets, they will also be instrumental to harnessing linkages between regional capital markets and global markets.

If the planners of the Asian Bond Markets Initiative emulate the issuing procedures, regulation and market infrastructure of global bondmarkets, Asian bondmarkets will not take off; most likely they will become as moribund as the Samurai and Shogun. Asian bondmarkets will also not be a viable source of financing if they are primarily designed to accommodate the borrowing needs of low-rated or unrated East Asian bond issuers because there will be little demand for high-risk Asian bonds.

There are a multitude of categories of bonds between top-grade low-risk bonds and high-yield high-risk bonds in global bondmarkets. The success of Asian bondmarkets will depend on identifying and bringing into the markets those issuers who do not have access to global bondmarkets but do have good credit records. To this end, the creation of regional credit-rating agencies specialised in East Asian bond issues would assume critical importance in launching and developing regional bondmarkets in East Asia.

Initially, sub-standards bonds, issued by creditworthy East Asian firms, could be made more attractive to risk-averse foreign investors through credit enhancement and guarantee of these bonds. However, credit enhancement

and guarantee facilities often do not exist. Where they do exist, the cost of the credit quality improvement tends to be high, making bond financing less attractive than bank financing. High-yield bonds issued by those corporations and financial institutions with speculative grades could be then transformed into investment-grade paper through the creation of special purpose vehicles which issue and market bonds of their own, backed by the sub-standard bonds they pool together. At this stage, however, only Korea, Hong Kong SAR and Singapore have been able to utilise the asset securitisation scheme.

Regional cooperation and official sector intervention

The 'leaving it to the market' approach will be the most logical alternative for East Asian countries in the development of Asian bondmarkets. However, these markets will not simply spring up, unless the official sector intervenes to organise and initiate the launching of these markets. The Asian Bond Markets Initiative could be thwarted or distorted by the vested interests of the banking and equity market. At this stage, investment banks, investment intermediaries and other market participants do not appear to have the ability or the incentive; although they are prepared to jump once profit is assured. What would then be the scope of government involvement and what would be the specific intervention measures?

In the long term, the objectives of the official sector intervention organised by the ASEAN+3 are clear. They are

- implementation of a regional assistance program for domestic financial reform
- consolidation and integration of clearing and settlement systems of individual countries
- support for the establishment of regional credit rating agencies
- harmonisation of legal, regulatory, and tax systems.

In smaller East Asian developing economies, creating an efficient domestic bondmarket may be extremely costly and will most likely end in failure unless institutional reform of corporate governance, accounting and disclosure to protect the investors' rights are implemented. In this regard, the ASEAN+3 are urged to develop institutional arrangements, including financial, to support financial reform in these countries.

Even if a bondmarket can be created, it remains uncertain whether the market will be a competitive source of financing compared to bank and equity market financing. Smaller East Asian economies may have incentives to forgo developing domestic bondmarkets if they could depend on regional and global bondmarkets for long-term financing without encountering the currency

mismatch problem. For these countries, cooperative efforts at a regional level may be directed to providing institutional support of credit, enhancement and guarantee and currency swaps to increase their access to regional bondmarkets.

One of the key issues related to the development of regional bondmarkets may be the creation of a single central securities depository in the region for safekeeping, clearance and settlements for all securities traded in the region. To obtain efficiency and stability of regional capital markets a large number of market-supporting institutions need to be created: regional credit agencies, cross-border securities borrowing and lending mechanisms, credit enhancement and guarantee agencies, clearing and settlement systems, a centralised depository system, and exchanges and over-the-counter markets for bond trading. In addition, different financial standards, regulatory systems and tax treatments in different countries in the region need to be harmonised (Rhee 2001).

A well-organised clearing and settlement process is a critical feature of a smoothly functioning regional bondmarket, providing for the efficient transfer of ownership from the seller to the buyer. An efficient cross-border clearing and settlement requires access to systems in different countries and the interactions of different system. In East Asia, the existing infrastructures for clearing and settlement for cross-border securities transactions is rudimentary and remains highly fragmented. Since investors from East Asia and other regions are required to access many national systems with different types of services, technical requirements and with different legal and tax frameworks, the costs of cross-border transactions associated with poor infrastructure are high and a major limitation on the scope of cross-border securities trading in East Asia.

The planners of the Asian bondmarket development must first identify the existing barriers to efficient cross-border clearing and settlement in terms of national differences in technical requirements and market practices, as well as national differences in tax and legal procedures. Once these barriers are identified, it will become clear which can be addressed by the private sector and which will require official intervention.

A recent report on integration of the clearing and settlement systems in the European Union (Giovannini Group 2001, 2003), shows that the most serious barriers to integration are restrictions on settlement activities in individual countries. Removal of these restrictions is the first step that will set in motion a market-led integration of clearing and settlement activities. Among these barriers, differences in the information technology, operating hours, settlement periods, intra-day settlement finality and issuance practices can and should be harmonised by the private sector. The barriers related to taxation and legal certainty would require cooperation among the ASEAN+3 governments.

In principle, the private sector should be able to develop schemes for credit enhancement and insurance. In fact, there are many insurance companies who specialise in this business. Therefore, public sector involvement should be limited to cases of market failure, such as providing credit rating assistance to small and medium-sized firms and sovereign borrowers unable to obtain an investment-grade rating.

Ferri and Liu (2002) show that corporations in developing economies are discriminated against in credit rating by global credit-rating agencies, in that these ratings are very much bound by their sovereign ratings, regardless of their domicile. Firms in developing economies are rated low because their sovereign ratings are low, which is mostly caused by the poor quality of institutions and information disclosure.

The long-term solution to this problem is to improve the rule of law and the quality of information disclosure by investing more, or social capital and institution building. In the short-run, joint efforts by the ASEAN+3 could organise regional schemes to cooperate with global rating agencies to devise separate firm level ratings based on firm specific risks only. Ferri and Liu (2002) also propose mechanisms of credit enhancement and guarantee as a short-run measure. If private credit insurance institutions are not efficient, resulting in a majority of firms being without access to credit improvement mechanisms at reasonable prices, then one can make a case for official sector involvement. However, if government-sponsored credit-improvement institutions are managed in a loose manner, then government involvement runs the risk of creating moral hazard problems, which will interfere with financial reforms and institution building in individual countries.

Concluding remarks

Several proposals have been made regarding the strategies for, and modalities of, developing regional bondmarkets in East Asia. This paper has examined the economic rationale and need for creating regional bondmarkets from the perspectives of borrowers, as well as investors, from East Asia.

Our analysis of the prospects for creating regional bondmarkets makes it clear that the development of domestic bondmarkets should precede the development of regional bondmarkets in East Asia. Deep and liquid domestic bondmarkets could relieve many East Asian emerging market economies of the burden of the twin mismatches of maturity and currency of the balance sheets of corporations and financial institutions of these economies. Regional markets are also expected to contribute to stabilising capital flows between East Asia and the rest of the world and could serve as a potential shield

against future financial crises. To many smaller developing economies in the region, however, the development of domestic bondmarkets can be so costly that they may have to rely on either regional and global bondmarkets to raise long-term capital.

For efficiency and stability, regional bondmarkets cannot remain isolated but must be linked to global bondmarkets. Countries aspiring to become regional financial centres in East Asia are expected to develop efficient market infrastructures and a free market environment to attract regional issuers and investors to their markets. Through competition, some of these countries will emerge as major regional financial centres. At this stage of development, some of the most important cooperative tasks facing the ASEAN+3 are to encourage and sustain domestic financial reform in the member countries and to build regional financial infrastructures to facilitate robust and efficient regional bondmarkets.

Notes

- ¹ Monetary Authority of Singapore Notice 757.
- ² The authors owe this point to Charles Adams of the International Monetary Fund.
- ³ The 'original sin' problem is not confined to East Asian borrowers. It applies to all developing economies. Bond issuance in international bondmarkets is dominated by five international vehicle currencies including the US dollar, the euro, the Japanese yen, the Swiss franc and the pound sterling. The international debt securities denominated in these five major currencies explain more than 97 per cent of the total international debt securities outstanding as of the third quarter of 2002. According to Eichengreen, Hausmann and Panizza (2002), of the nearly US\$5.8 trillion in outstanding securities placed in international markets in the period 1999–2001, US\$5.6 trillion was issued in these five major currencies. Of the US\$1.3 trillion debt issued by international organisations and by residents of countries other than the countries issuing these five major currencies, only US\$0.2 trillion debt was denominated in currencies other than these five currencies.
- ⁴ Eichengreen et al. (2002) show that the real exchange rate based currency basket comprising 20 international currencies, including East Asian currencies has shown stability even during the 1997–98 East Asian currency crisis.
- ⁵ Eichengreen et al. (2002) argue that this is one of the reasons why international financial institutions were able to issue international bonds denominated in currencies other than the five major currencies.
- ⁶ Specifically, La Porta et al. (1998) classify countries into those with civil and common law origin. They find that common law origin countries are characterised by higher efficiency in contract enforcement. Common law countries are also documented to offer stronger legal protection of outside investors' rights, for both shareholders and creditors. The legal decision process is also more predictable in common law systems. From these observations, La Porta et al. assert that common law systems are inherently superior to civil code legal systems in encouraging financial and economic development. By contrast, Ahn and Chan-Lee (2001) suggest that better enforcement rather than legal origins are critical.
- ⁷ The number is based on the domestic ratings of AA- or higher. If criterion is lowered to A+, the number increases to 49.

Appendix 2.1

The Samurai bondmarket

Samurai bonds are yen-denominated bonds issued in Japan by non-resident issuers. Samurai is a primary offering in Japan under Japanese law.

From the viewpoint of investors, Samurai bonds are considered to be domestic bonds, ensuring easier access than the Eurobond (Japanese institutional investors have stricter investment policies imposed on them when investing in overseas-issued bonds). In addition, the convenience of bond settlement (they can settle Samurai bond based on TKY time), and documentation in Japanese, also provide access to Samurai bonds.

In its 30-year history, the Samurai market gradually evolved and the amount of issuance surged at 3.87 trillion yen in 1996 after the Japanese government lifted the regulation, which prohibited the issuance of sub-investment grade issuers in December 1995. The market experienced a practical closure in 1998 following the East Asian crisis. Since 1999, investors have come back gradually, and the issue amount recovered to 2.3 trillion yen in 2000 then again reduced its size in 2001 at 1.5 trillion yen, affected by the series of credit events.

In 2002, 4 issuers (7 issues) have tapped the Samurai market. Followed by the demand from Japanese investors for high-rated issues, a series of famous global name came to the market. For example, General Electric Capital Corp. (AAA/Aaa), the financing unit of General Electric Co., became the second largest Samurai to date after DaimlerChrysler's 220 billion yen deal launched in November 2000. At first, they planned to issue the Samurai with the amount of 160 billion yen, but backed by the strong demand from investors, GECC increased the total amount to 200 billion yen.

Appendix 2.2

The Singapore Corporate Bondmarket

The development of debt markets in Singapore has been one of the key components of the Monetary Authority of Singapore's attempt to enhance Singapore's role as an international financial centre. This has led to a series of bold reforms, including the liberalisation of the Singapore dollar and the development of Singapore as a hub for issuing, arranging and trading debt securities. The debt markets in Singapore are made up of three major segments: the Singapore government securities market, the Asian dollar bondmarket and the Singapore dollar corporate bondmarket. Despite the fact that the government has run budget surpluses since the 1980s and maintains huge reserves, the Singapore government securities market remains the biggest segment of the debt markets in Singapore. The Asian dollar bondmarket, which

involves bonds denominated in non-Singapore dollars, is the second largest even though it has been promoted by the Monetary Authority of Singapore since 1971 to transform Singapore as a financial centre. While remaining as the smallest segment, the Singapore dollar corporate bondmarket has experienced phenomenal growth since 1989 when the Monetary Authority of Singapore began to promote it actively.

Although these markets form the three important pillars of the debt markets in Singapore, the Monetary Authority of Singapore has, in recent years, been focusing on developing the Singapore government securities and Singapore dollar corporate bondmarkets. One reason for this new focus is that the incentives given to the Asian dollar bondmarket are already attractive. The Asian dollar bond has all along been exempted from withholding tax, and banks have been enjoying a concessionary tax rate of 10 per cent on income derived from arranging such bonds. The second reason is that the Singapore government securities and Singapore dollar corporate bondmarkets are of great strategic importance to Singapore, as their absence (or underdevelopment) may imply that Singapore has the problem known as 'original sin'. According to Eichengreen and Hausmann (1999), a country suffers from 'original sin' if it cannot borrow domestic currency in international markets. The East Asian financial crisis has shown vividly that financial fragility is inevitable if domestic investments are financed by foreign currency loans (currency mismatch) or by short-term loans (maturity mismatch). Hence, it is imperative for countries to avoid the 'original sin'.

Growth and structure of the debt markets in Singapore

Singapore government securities, Asian dollar bonds and Singapore dollar corporate bondmarkets have all exhibited strong growth in recent years. The Singapore government securities market still dominates the debt markets in Singapore, with the total gross issuance in 2001 amounting to some S\$58.6 billion (S\$44.4 billion for treasury bills and S\$14.2 billion for bonds). This brought the total Singapore government securities outstanding at end-2001 to S\$58.6 billion. The Asian dollar bondmarket is the second largest segment of the debt markets in Singapore. Since its inception in 1971, the Asian dollar bondmarket has grown rapidly, although the level of activity fluctuates from year to year in response to demand for funds by foreign issuers. In 2001, total issuance of the Asian dollar bond was S\$50 billion, an increase of 39 per cent over 2000. The fledgling Singapore dollar corporate bondmarket remains the smallest although it has shown rapid growth in recent years. In 2001, total issuance of the Singapore dollar corporate bond was S\$22.01 billion, which represents 38 per cent of the total Singapore government securities issuance.

This was a vast improvement over the situation in 2000 when the total issuance of the Singapore dollar corporate bond was only 26 per cent of the total Singapore government securities issuance.

Structure of the Singapore government securities market

The Monetary Authority of Singapore, acting as fiscal agent for the government, issues three-month treasury bills weekly, while one-year treasury bills, as well as two, five, seven and 10 year bonds are issued regularly. In an effort to boost liquidity in the Singapore government securities market, the Monetary Authority of Singapore has announced in May 2000 that all benchmark issues will be at least S\$2–2.5 billion in size (Monetary Authority of Singapore 2001a:54). In the 5-year bond auction in 2001, a new benchmark size of S\$3.4 billion was established in response to market demand.

The Singapore government securities auctions are held under a Dutch auction process, although bidders at bond auctions may also tender non-competitive bids. All bids must be placed through the eleven primary dealers. In order to ensure that the Singapore government securities auctions are fully taken up, each primary dealer is required to subscribe $1/n$ of the auction amount, where n is the number of primary dealers. The primary dealers must also provide liquidity to the Singapore government securities and the Singapore government securities repurchase market by quoting continuous two-way prices in Singapore government securities under any trading condition.

The secondary market comprises 38 dealers spread across banks, merchant banks and stockbroking firms. These dealers can trade with retail customers in principal amounts ranging from S\$1,000 for Singapore government securities to S\$250,000 for Singapore dollar corporate bonds. They trade with each other in standard lot sizes of S\$5 million for on-the-run issues, and S\$2 million for off-the-run issues. Trading is usually transacted by telephone and cleared electronically on a delivery versus payment basis over the the Monetary Authority of Singapore Electronic Payment System and the Singapore government securities Book-Entry Clearing System operated by the Monetary Authority of Singapore. Introduced in July 1998, this is the real time gross settlement system that replaces the former end-day net settlement system.

The repurchase market has become increasingly liberalised, as the Monetary Authority of Singapore recognises that active development of this market would enable investors and primary dealers to finance their bond inventories and hedge their Singapore dollar debt positions. This would, in turn, facilitate more active trading of Singapore government securities and improve the liquidity in the cash bondmarket. In May 2000, offshore banks

were allowed to engage in repurchase without size restriction, lifting the limit of S\$20 million set in November 1999. In November 2000, the Monetary Authority of Singapore took the unprecedented step of carrying out its own Singapore government securities repurchase program, aimed at re-channelling liquidity from off-the-run issues into larger and more liquid benchmark bonds. In December 2000, the Monetary Authority of Singapore allowed non-residents to borrow Singapore dollars in the repurchase market without size restriction, provided that the funds are to be used for investment in onshore assets. As a result, the repurchase turnover has grown rapidly since the middle of 1990s. By 2001, the average daily repurchase volume reached S\$1.8 billion, about the equivalent of the previous five years' average daily repurchase volume combined (see Appendix Figure 2.1).

The growth of the repurchase transaction has, in turn, facilitated a more active trading of the Singapore government securities and improved liquidity in the cash bondmarket. Turnover of Singapore government securities has been trending upwards in recent years, except for 1999 which saw the defensive behaviour on the part of market participants prior to the run-up to Y2K.

The major holders of the Singapore government securities are banks and finance companies. Banks hold Singapore government securities to meet their minimum liquid asset requirement that currently stands at 18 per cent of their total liability base. Of this 18 per cent, 10 percentage points must be in outright

Appendix Figure 2.1 Repurchase daily average turnover, 1998–2001
(S\$ million)

Source: Monetary Authority of Singapore.

Appendix Table 2.1 **Difference between Samurai bonds and Eurobonds**

	Samurai	Eurobond <i>Uridashi</i>
Governing law of agreements	Japanese law	Issuer's choice
Related Japanese law	Securities and Exchange law Foreign Exchange and Foreign Trade law	Securities and Exchange law Foreign Exchange and Foreign Trade law in the case of 'Euroyen'
Category	Japanese domestic bond	International bond
Parties concerned	Managers/underwriters/commissioned companies/recording agency/paying agents/Japanese lawyers and CPA	Dealer/seller in Japan/fiscal agent/trustee/calculation agent/Japanese lawyer and CPA
Distribution in Japan	Institutional and retail: 100% in Japan	Institutional and retail: mainly retail targeted distribution
Form of the bond	Bearer, definitive/recorded form	Bearer, global form
Clearing and settlement	Physical delivery/recording book	Euroclear/Cedel
Payment system	Japanese paying agents	Fiscal agent/Japanese securities houses
Signing	Tokyo	London
Syndicate group	Mainly Japanese securities houses	Usually no syndicate group, selling group in Japan may be formed

Note: A secondary public offering of existing securities is called *Uridashi* in Japanese. *Uridashi* is defined as a 'secondary public offering' of securities that are once issued in a market outside of Japan (Euromarket) and brought into the Japanese market as existing securities for a public offering. For example, the bonds are underwritten by Nomura International plc in the Euromarket and then marketed to retail investors in Japan through a secondary public offering by The Nomura Securities Co., Ltd.

Appendix Table 2.2 International corporations' issues, Samurai market 2002

Issuer	Region category	Issuer	Rating	Type	Launch date	Maturity (¥ bn)	Amount (years)	Maturity (%)	Coupon price	Issue	Book runner	Target	Spread (bps)
IBM	US	Corp	A1/A+	Str ^b	21/2/2002	4/3/2004	26.00	3	0.6	100.000	Nomura	I ^d	L+29
IBRD	Supra	Supra	AAA	RD ^c	26/2/2002	12/3/2032	10.00	30	Var5.0	100.000	Daiwa SB	I	
IBRD	Supra	Supra	AAA	RD	27/2/2002	12/3/2032	10.00	30	Var5.0	100.000	Mizuho	Sec I	
BMW													
Finance	EUR	Corp	AA(R&I)	Str	3/6/2002	14/6/2007	45.00	5	0.73	100.000	Daiwa SB	R ^e	L+20
GECC	US	Corp	Aaa/AAA	Str	5/6/2002	17/12/2003	65.00	1.5	3MYL +10bp	100.000	MSDW	I	
GECC	US	Corp	Aaa/AAA	Str	5/6/2002	17/6/2005	65.00	3	0.4	99.970	MSDW	I	L+15
GECC	US	Corp	Aaa/AAA	Str	5/6/2002	17/6/2007	50.00	5	0.73	100.000	MSDW	I	L+20
GECC	US	Corp	Aaa/AAA	Str	5/6/2002	17/6/2012	20.00	10	1.63	99.950	MSDW	I	L+27
Croatia	EUR	Sovereign	BBB-/ BBB(R&I)	Str	12/6/2002	26/6/2008	25.00	6	2.15	100.000	Nomura	R/I	L+144
IBRD	Supra	Supra	AAA	RD	19/6/2002	24/3/2023	3.00	20.75	Var3.0	100.000	Daiwa SB	I	
IBRD	Supra	Supra	AAA	RD	20/6/2002	25/3/2032	1.10	29.75	Var3.5	100.000	Daiwa SB	I	
AFLAC	US	Corp	A/A2/A+(FI)	Str	27/6/2002	27/6/2007	30.00	5	0.96	100.000	Goldman Sachs	I	L+48
KDB ^a	Asia	Sovereign	A3/BBB+ /A-(R&I)	Str	3/7/2002	25/7/2007	30.00	5	0.91	100.000	Daiwa SB	I	L+41

^a Korea Development Bank

^b Straight bond, ^c Reverse dual

^d Institutional investors

^e Retail investors

Appendix Table 2.3 **Samurai bonds by credit rating, 1990–2002**
(billion yen)

Year	AAA	AA	A	BBB	BB	B
1990	181.0	194.0	175.0			
1991	30.0	105.0	255.0	70.0		
1992	214.0	295.0	390.0	280.0		
1993	270.0	331.0	594.0	485.0		
1994	25.0	175.0	393.5	474.0		
1995		312.5	267.0	427.0		
1996		143.0	217.2	379.0	532.0	
1997		79.3	260.5	147.5	150.0	30.0
1998				30.0	32.5	
1999	160.0	150.0	130.0	156.0	50.0	
2000		395.0	1,030.0	187.0	466.5	40.0
2001		205.0	425.0	333.0	400.0	
2002	200.0	45.0	111.0	25.0		

Source: Monetary Authority of Singapore.

Appendix Table 2.4 **Samurai bonds by tenors, 1990–2002**

Year	1–3 yrs	4–5 yrs	6–7 yrs	8–10 yrs	11–20 yrs	20 yrs
1990	10.0	192.0	170.0	178.0		
1991		75.0	170.0	215.0		
1992	60.0	430.0	315.0	374.0		
1993	30.0	741.5	304.0	474.5	60.0	70.0
1994	207.0	491.0	180.0	170.0	20.0	
1995	35.0	401.0	222.0	159.0	140.0	50.0
1996	52.0	491.5	330.0	244.0	65.0	88.7
1997	56.0	174.5	210.0	98.3	116.0	12.5
1998	22.5	30.0				
1999	410.0	159.0	30.0	47.0		
2000	790.0	1,118.5	85.0	125.0		
2001	494.0	693.0	163.0	13.0		
2002	166.0	170.0	25.0	20.0		

Source: Monetary Authority of Singapore.

holdings of Singapore government securities while up to 4 percentage points may be in the form of trade bills. From May 2000 onwards, term reverse repurchase transactions (or loans taken by banks using Singapore government securities as collateral) are eligible for up to 5 percentage points of the minimum liquid asset requirement (Monetary Authority of Singapore 2001a:37). In the past, only overnight repurchase trades are eligible for the minimum liquid asset requirement. At the end of 2000, the total minimum liquid asset requirement was S\$35.3 billion, compared with S\$43.2 billion of Singapore government securities outstanding. But the actual liquid assets held by banks in 2000 was S\$39.5 billion, which was some S\$4.2 billion in excess of the minimum liquid asset requirement. Out of these S\$39.5 billion of liquid assets held by banks, some S\$33.7 billion (or 78 per cent) were Singapore government securities. It can thus be seen that a large chunk of the Singapore government securities is being 'locked up' by banks.

It is frequently stated that the government-run pension fund, the Central Provident Fund, is the single largest holder of government bonds. However, the bonds that it holds are of a particular kind. These are specially-issued, non-tradable, long-term government bonds which are held by the Central Provident Fund until maturity. In 2000, the Fund held some S\$60.6 billion of such bonds, which was one and a half times more than the total Singapore government securities outstanding (Monetary Authority of Singapore 2001a:107). Most of the proceeds from such bonds are probably channelled to the Government of Singapore Investment Corporation for investment in foreign assets.

Structure of the Asian dollar bondmarket

The first Asian dollar bond was launched by the Development Bank of Singapore in December 1971 when it floated a US\$10 million 10-year issue. Since then, many other banks and corporations (both domestic and international) as well as national governments and multilateral organisations have tapped this source of funds. The type of issuers varies from year to year. Most of the Asian dollar bond issues were denominated in US dollars. 2001 was a typical year when some 92 per cent of the Asian dollar bondmarket were denominated in US dollars, with the remaining 8 per cent denominated in Hong Kong dollar, euro and Japanese yen (Monetary Authority of Singapore 2001b:7).

Structure of the Singapore dollar corporate bondmarket

The Singapore dollar corporate bondmarket has been markedly transformed in recent years. In 1998, property companies were the dominant issuers, accounting for about 70 per cent of total issuance in the Singapore dollar

Appendix Figure 2.2 Profile of Singapore dollar debt issuers

Source: Monetary Authority of Singapore, 2003. *Survey of the Singapore Corporate Debt Market*, Monetary Authority of Singapore, Singapore. Available online at <http://www.mas.gov.sg/singfinsec/download/2002DebtSurvey.pdf>.

corporate bondmarket. By 2001, the issuer mix has become more balanced, with property companies accounting for only 17 per cent of the debt issuance. Other major issuers in 2001 were financial institutions (16 per cent), statutory boards (7 per cent) and foreign entities (8 per cent). 2001 was an unusual year for financial institutions as they were exceptionally active in the Singapore dollar corporate bondmarket to raise funds for their merger and acquisition activities (see Appendix Figure 2.2). The rising importance of statutory boards and foreign entities in the Singapore debt market scene did not occur by accident. Rather, it is the result of a deliberate two-pronged strategy by the Monetary Authority of Singapore to promote the corporate bondmarket.

The first prong in the development plan has been the encouragement given to statutory boards and government-linked corporations to tap the bondmarkets rather than opt for direct bank lending. Learning from the experience of the crisis-hit economies in East Asia, where their balance sheets were under extreme stress because of the concentration on bank lending, the Monetary Authority of Singapore was keen to diversify these risks. The development of the corporate bondmarket therefore allows companies to diversify funding sources and reduce their dependence on bank lending. Apart from increasing the size of the corporate bondmarket, the issues by statutory boards have extended the yield curve, with the Jurong Town Corporation launching a S\$200 million 12-year issue in 2000. Singapore Telecommunications, a government-linked corporation, also responded to the

call by the government by launching a S\$1 billion 5-year issue in February 2001, the largest issuance in the Singapore dollar corporate bondmarket to date. In addition to straight fixed and floating rate straight debt, local corporations also issued mortgaged-backed securities and other innovative synthetic mortgaged-backed securities.

The second prong of the approach has been the opening up of the Singapore dollar bondmarket to foreign issuers. This is accomplished through the Monetary Authority of Singapore's Notice 757, introduced in August 1998 and amended in November 1999. The main points of these notices are as follows.

- If the Singapore dollar proceeds from bond issuance are to be used outside Singapore, they must be converted or swapped into foreign currency before remitting abroad.
- The swap leg of the above transaction is exempted from the cash and minimum liquid asset requirements and from tax.
- There is no minimum size requirement (the minimum issue size was S\$100 million when Notice 757 was first issued).
- There is no restriction on the credit rating of issuers.
- If funds raised are for use in Singapore, issues for non-bank non-residents do not require prior approval from the Monetary Authority of Singapore.

Despite the condition requiring foreign issuers to convert or swap their Singapore dollar proceeds into a foreign currency before remitting abroad, many of them have come to the Singapore dollar corporate bondmarket. This basic requirement has not hindered legitimate foreign issuers from tapping the Singapore market. Indeed, from the introduction of the Notice 757 in August 1998 up till the first quarter of 2002, some S\$7.2 billion of Singapore

Appendix Table 2.5 **Size of the capital market, 2001 (US\$ billion)**

	Stock market capitalisation	%	Debt securities	%	Bank assets	%
World	28,875.1	19.2	41,792.2	27.8	79,401.8	52.9
EU-15	6,763.0	13.1	11,843.4	23	32,939.7	63.9
United States	13,826.6	25.4	18,504.3	34	22,157.4	40.7
Japan	2,293.8	10.6	6,925.1	32	12,408.6	57.4
Asia	1,310.4	14.1	1,270.0	13.7	6,722.4	72.3
Latin America	412.0	15.3	693.7	25.7	1,593.3	59

Source: International Monetary Fund, 2003. *Global Financial Stability Report: market developments and issues*, International Monetary Fund, Washington, DC. Available online at <http://www.imf.org/External/Pubs/FT/GFSR/2003/01/index.htm>.

Appendix Table 2.6 Sources of corporate finance, 2000 (US\$ billion)

	Bank loans	Corporate bonds	Equities
Korea	59.6	25.9	36.4
Indonesia	60.2	1.7	20.1
Malaysia	122.7	9.2	83.6
Thailand	99.2	4.2	26.3
United States	38.9	45.4	178.9

Source: International Monetary Fund, 2003. *Global Financial Stability Report: market developments and issues*, March, International Monetary Fund, Washington, DC. Available online at <http://www.imf.org/External/Pubs/FT/GFSR/2003/01/index.htm>.

dollar debts have been issued by foreign entities. The issue size ranged from S\$25 million to S\$400 million. Tenures of bonds were generally extended, in some cases to as long as 10 years.

Many supra-nationals and multinationals have been quick to make their debut in Singapore in order to raise the visibility of their organisations. Foreign issuers might also be attracted to the Singapore market because of the low borrowing cost and large pool of Singapore dollar funds. However, combining a Singapore dollar loan with a currency swap would result in a 'synthetic' foreign currency loan for foreign issuers. Given that the swap market involving the Singapore dollar is illiquid and has wide spreads, it is unclear whether foreign issuers would still come to Singapore when they could issue foreign currency bonds directly in the Eurodollar bondmarket. If not, many potential foreign issuers might just wait until Singapore is able to develop a more liquid swap market.

Rationale for developing the Singapore government securities and the Singapore dollar corporate bondmarkets

The over-dependence on bank lending and short-term capital inflows to finance long-term investments has often been cited as one of the main reasons for the East Asian financial crisis in 1997. It had been argued that the crisis might have been avoided if a well-developed bondmarket had existed in the region, as Asian governments and companies would then have a more stable source of long-term domestic currency funding rather than short-term foreign loans. However, the rationale for developing the debt market in the East Asian region after the crisis does not seem to be particularly relevant to Singapore for various reasons. First, the government and many of the large companies in

Singapore do not need to borrow, as they are generally cash-rich. Second, Singapore's sophisticated bank lending network and equity capital market will probably more than compensate for the absence of bondmarkets and continue to be the fundraising avenues of choice. Third, the banking sector is so well capitalised and well regulated that banks' over-exposure in foreign currencies is unlikely to happen in Singapore. Hence, the need to develop the debt markets in Singapore is probably governed by other imperatives.

One imperative is the desire on the part of the government to develop the island state as a financial services hub for the region. Currently, Singapore is laying a strong foundation for developing the regional bondmarket. For a start, Singapore is encouraging well-established foreign entities to issue and purchase Singapore dollar bonds, in its effort to emulate Switzerland where foreigners are active issuers and traders of Swiss franc bonds. In the longer term, Singapore is aspiring to become the centre for the issuing and trading of regional currency bonds.

The second motivation for developing the Singapore bondmarket is that the growth of liabilities in the banking, insurance and asset management industries creates a need for a larger asset base. While issuance of Singapore government securities is constrained by fiscal surpluses, issuance by local corporations is limited by their investment opportunities. For this reason, encouraging the issuance of Singapore dollar bonds by foreign entities is a necessary step to meet the asset needs of Singapore's various financial institutions.

It can be surmised that the development of the Singapore government securities market has had a positive effect on the development of the Singapore dollar corporate bondmarket. First, the securities market has provided the necessary benchmark yield curve for the pricing of the Singapore dollar corporate bond. Second, it helps to educate the investing public about the intricacies of bond investment. Third, the active participation of residents in the Singapore government securities market can only enhance the ability of Singapore firms to borrow in Singapore dollars. The reasoning is that if government bonds are widely held by domestic investors, there will be a strong political constituency against any surprise inflation engineered by the government (Eichengreen and Hausmann 1999). As a result, non-residents will be more willing to hold bonds denominated in the domestic currency. The only negative effect from the development of the Singapore government securities market is the possible 'crowding out' of the Singapore dollar corporate bondmarket. Thus far, the growth of the Singapore government securities market does not seem to be crowding out the Singapore dollar corporate bondmarket.

Factors hindering bondmarket development in Singapore

The main factors hindering the development of Singapore's debt markets are constraints in supply and demand.

On the supply side, the small domestic market of Singapore severely limits the amount of funds that its government and local corporations would need. In addition, it is relative easy for statutory boards and corporations in Singapore to obtain bank credit; issuing bonds is apparently more troublesome and time consuming. The fact that the debt markets in Singapore are largely a captive market has exacerbated the problem. For example, a high proportion of Singapore government securities are held by commercial banks and finance companies to fulfil the minimum liquid asset requirement. Singapore government securities are also held—usually to maturity—by insurance companies. As a result of this captive market, there is little trading of these securities in the secondary market.

On the demand side, most of the Singapore investors have strong preference for equities and properties over bonds. Because of the low interest rate environment in Singapore, the yields on bonds, particularly government bonds, are low and unattractive. On top of that, Singapore investors have to pay tax on interest income whereas they do not have to pay tax on capital gains obtained from investing in equities and properties. Last, but not least, bond trading in the over-the-counter market lacks liquidity and transparency. As a result, bond investors tend to buy and hold their bonds rather than trade actively.

Most of the investors of Singapore dollar corporate bonds are insurance companies and fund managers operating in Singapore. Hence, the Singapore dollar corporate bondmarket has a great potential for growth if Singapore is able to tap the local retail market and the international market. There are three possible reasons for the lack of interest on the part of foreign investors. First, the yields on Singapore dollar bonds are relatively low. Second, since the East Asian financial crisis that started in July 1997, the Singapore dollar has depreciated against the US dollar and against a basket of currencies. The depreciating Singapore dollar in the past few years might have reduced the attractiveness of holding Singapore dollar bonds. Third, the illiquid secondary market must have further reduced the incentive of non-residents to hold Singapore dollar bonds as an investment instrument.