
Part 1
Theme Paper and Special
Reports

Theme Paper

Expanding Long-Term Financing Through Bond Market Development: A Postcrisis Policy Task

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I. Introduction

The Asian financial crisis suggests many policy tasks to be addressed, not only in the region's worst hit economies, but also in other developing countries. One of these is to diversify the source of industrial financing, which has historically been concentrated in the form of intermediated borrowings. For example, the crisis countries¹ relied on short-term external borrowings from both domestic and foreign banks for their long-term development resources. This was the result of policies that focused on the establishment of bank-centered financial systems without adequately encouraging alternative modes of financial contracting.²

While the bank-centered financial system approach has successfully contributed to the high-economic growth achieved in the region (since banks are more effective monitors of financial environments characterized by asymmetric information in underdeveloped financial markets), it has also resulted in overreliance within the industry sector on short-term bank-intermediated borrowings. In July 1997, as the crisis struck Indonesia, two thirds of the total corporate sector foreign debt (US\$64.6 billion) was short term, with the average maturity of all private sector debt (occupying about 80 percent of the country's debt) being approximately 18 months. Such industrial financing behavior caused two critical financial

1. The crisis economies in this paper refer to the worst hit countries, namely, Indonesia, Republic of Korea, Malaysia, and Thailand.

2. See Walter (1993) for a discussion of the different modes of financial contracting and a stylized model of the financial intermediation process. Also, Harkansson (1999) argues that a developed bond market reduces systemic risk and the probability of crisis.

mismatches: a maturity mismatch and a currency mismatch. The maturity mismatch was the consequence of unhealthy financing practices, characterized by large, long-term investments under the financing of short-term bank borrowings.³ In addition, the practice involved a serious currency mismatch without the provision of a proper currency hedging arrangement. In fact, the currency mismatch was implicitly protected by overvalued exchange rates, arising from foreign exchange misalignments in these countries.

The financial sectors of the crisis economies have developed much less successfully than the real sectors. Financial sector weaknesses are deep-seated and pose problems in the overall economy. The countries in question have failed to vigorously address these weaknesses during the high growth period of the past four decades. While real sector growth was successful, financial sector development lagged behind. Evidence of strength in the real sector can be seen in low inflation, high growth, fiscal discipline, and significantly advanced manufacturing capacity. By contrast, the financial sector remains weak largely due to government intervention in the operation and management of financial institutions, direct fiscal support for a significant number of special-purpose banks, implicit government guarantees about banks' operations, and an improper financial sector development strategy, which downplays the role of capital markets. Due to this underlying situation, the Asian crisis is viewed as a liquidity crisis rather than a macroeconomic crisis.

Until now, the crisis countries' restructuring policies have focused on the stabilization of financial markets (particularly banking and foreign exchange markets), recapitalization of viable banks, the workout of heavily indebted corporations, reform of corporate governance, and resolution and management of nonperforming loans. Excluding Indonesia, where the restructuring process is sluggish, the crisis countries' efforts have generally been successful and contributed to the recent, rapid economic recovery—particularly in the Republic of Korea and Malaysia, where governments are taking the lead. The speed of restructuring here is fast, although the ongoing effort has resulted in many related problems and issues, such as the accumulation of huge nonperforming assets in the hands of asset management companies (AMCs), the injection of large public funds for bank recapitalization, and the related nationalization of several banks.

3. Best international practice, as well as some banking laws, suggests that a commercial bank which is generally entitled to receive only short-term deposits up to one year, should try to match the average maturities of risk sensitive assets and liabilities. Regulators usually require this maturity mismatch to be within a specific band that is determined by the bank's size, its experience, and the infrastructure available to manage and measure risk.

While the crisis economies must maintain their ongoing restructuring efforts, they must also start to consider the postcrisis policy agenda to prevent the recurrence of similar crises in the future, and to lay stronger foundations for sustainable long-term development. An important goal in this context is to diversify the source of industrial financing through the development of deeper capital markets, which remain underdeveloped in these countries; bond markets in particular. Actively tapping international bond markets to finance long-term industrial projects is also recommended.

In the postcrisis period, the industrial corporations in Asian developing economies, including those in the crisis economies, will experience some significant changes in the financing environment. Specifically, both foreign and domestic banks will be extremely cautious about providing credits.⁴ This will result in bank disintermediation, as in the United States (US) and, to a lesser extent, Japan and European countries,⁵ though for different reasons. Given that bank intermediated finance still forms the single most important source of industrial funds in Asian developing countries, this change underlines their need to develop disintermediated financing. The potential for developing domestic bond markets is great given the high savings rates in these countries.

Effective capital markets may play several positive roles, first through greater diversification of financing, an easier process of risk transformation and smaller concentration of financial risks. Second, having access to swifter flows of diverse information, capital markets may check and screen financial risks more efficiently and quickly than bank credit departments, leading to more appropriate financing decisions being taken. More effective capital markets can also deepen a developing country's financial base, with far-reaching positive implications for development resource mobilization.

4. From 1996 to 1999, the levels of international bank lending to Asian developing countries decreased significantly. See Chapter II for details.

5. International portfolio diversification and the yield-seeking behavior of globalized investors has increased the opportunity cost of bank deposits, and contributed to bank disintermediation and a broadening of securities markets in many advanced countries. For example, the total market value of assets managed by US mutual funds (roughly US\$5 trillion) and invested in securities markets surpasses the total value of deposits in US banks. Japanese and European financial markets are largely following US trends, though the pace is slower (see Schinasi and Todd-Smith (December 1998)).

II. Trends of Industrial Financing in the Asian Crisis Economies

Industrial financing comprises new equity and debt financing through bank intermediated or direct securities issues in domestic or foreign bond markets. The focus of this Study is on debt financing. The following section highlights trends in the domestic debt and equity financing, international bank financing, and international bond issues of Asian crisis economies.

A. Domestic Debt and Equity Financing

The financial systems of the four crisis economies are very different. The economies of Indonesia and Thailand are easily characterized as bank-centered financial systems where banks are required to exert a significant monitoring role arising from both equity as well as debt exposures. Malaysia has a more developed equity market, which suggests better levels of investor protection and governance. This legal protection should both facilitate arm's length bank financing while also encouraging disintermediated financing. Meanwhile, the Republic of Korea, with its *chaebol* structure, displays a web of interconnected corporate cross-holdings. Added to the corporate control processes within these financial systems are the divergent influences of the state, small groups of founding families, and also shareholders, who are often poorly organized and lacking in political influence. The mitigation of these agency factors and the different degrees of development of institutional and legal infrastructure have affected the structure of the respective bond and equity markets in the crisis economies.

The size of bond and equity markets and domestic bank lending in the crisis economies at year-end 1998 is shown in Table 1. All crisis economies have significantly large banking sectors and much smaller bond and equity markets. The table clearly shows how domestic financing in these countries has traditionally relied on the banking sector. Malaysia has the largest market for bank loans and equity market capitalization in relation to gross domestic product (GDP), while the Republic of Korea has the largest corporate bond market in relation to GDP (27.3 percent), followed by Malaysia (5.1 percent), Thailand (2.6 percent), and Indonesia (1.5 percent).

TABLE 1
Bank Loans, Corporate Bonds, and Equities in Asian Crisis Countries
and the US, End-1998
 (percent of GDP)

	Outstanding Bank Loans	Outstanding Corporate Bonds	Equity Market Capitalization
Indonesia	60.2 ^a	1.5	16.2
Republic of Korea	43.5	27.3	30.7
Malaysia	148.4	5.1	134.4
Thailand	108.7	2.6	26.3
US	38.8	43.2	158.1

^a at the end of 1997.

Source: Countries' Monetary Authorities and Bloomberg Investor Services.

The crisis economies' heavy reliance on bank intermediated finance is evident in comparison with the large, integrated financial market in the US,⁶ where bank lending and corporate bond markets are of a similar magnitude (38.8 percent and 43.2 percent). The ratios suggest that the Republic of Korea has the most disintermediated debt market whereas Indonesia has the least. Malaysia, however, has an equity market in which capitalization is comparable in GDP terms to that of the US. Since intermediation via traditional financial institutions and direct securities market processes compete with one another in terms of efficiency, it is important to identify those factors that have prevented the development of nonintermediated forms of financing in the crisis economies.

TABLE 2
Outstanding Corporate Bonds in Asian Crisis Countries and the US
 (percent of GDP)

Country	December 1996	December 1997	December 1998
Indonesia	1.9	2.5	1.5
Republic of Korea	18.2	21.4	27.3
Malaysia	6.1	7.1	5.1
Thailand	2.8	2.8	2.6

Source: Countries' Monetary Authorities and Bloomberg Investor Services.

6. Given the large difference in historical backgrounds and underpinning frameworks between financial systems, it is not advisable to directly compare these countries with the US. However, because the US has the most advanced capital market, it may serve as a comparator country in discussing bond market development.

The three-year trends from 1996 to 1998 shown in Table 2 suggest that only the Republic of Korea has increased corporate bond financing over the period, from 18.2 percent to 27.3 percent, while levels in the other three countries, despite some year-to-year fluctuations, have generally remained unchanged. The US, however, assisted by the ongoing recycling of bank loans through various securitization vehicles, shows evidence of continuing disintermediation, with levels of bond financing increasing over the period from 37.1 percent to 43.2 percent. This shows that bond markets in the crisis countries remain at a modest level. During the immediate fallout of the financial crisis in the Republic of Korea, commercial banks became extremely cautious about new lending and were eager to withdraw old loans to meet the Bank of International Settlements (BIS) capital adequacy ratio. This led industrial corporations to tap bond markets as a substitute form of financing. In Malaysia, the banking sector was well capitalized before the crisis, with capital–asset ratios exceeding 10 percent. Therefore, Malaysian banks did not drastically cut loans to the industry sector. Indonesia and Thailand did not significantly reduce bank loans either. However, Indonesia, Malaysia, and Thailand have all been keen to develop corporate bond markets, particularly since the crisis.

B. International Bank Financing

The levels of international lending (by BIS reporting banks) to the crisis economies between 1996 and 1999 are shown in Table 3. This table provides a summary of lending levels to the crisis economies and the Asia-Pacific region generally, with more specific details of lending to individual countries provided in the Appendix. The table shows that 1996 lending levels peaked in December at US\$247.9 billion. By June 1999, the figure had dropped significantly to US\$160.7 billion.

In nominal terms, this appears to be linked to a withdrawal of lending to Asia generally (an overall decline from US\$367.1 billion to US\$287.0 billion) and an increase in lending to other developing countries (an increase from US\$692.6 billion to US\$809.6 billion). In percentage terms, the largest reductions in bank lending throughout the period were experienced by Thailand (50 percent) and the Republic of Korea (37 percent). This suggests that postcrisis international bank lending to the affected economies was characterized by the rebalancing of investor portfolios away from the Asian region to other developing countries, particularly in Eastern Europe.

While Asia enjoyed a privileged position as the major recipient of international lending to the developing world in 1996 (53 percent of all

TABLE 3
International Bank Lending to Crisis Economies
(in US\$ billion)

	Dec 1996	Dec 1997	June 1998	Dec 1998	June 1999
Total Developing Countries (TDs)	692.6	891.7	860.7	842.7	809.6
Total Asia (TA)	367.1	378.8	319.6	299.4	287.0
Indonesia	55.5	58.0	48.4	45.0	43.8
Republic of Korea	100.0	93.7	71.6	65.6	63.5
Malaysia	22.2	27.3	22.8	20.9	18.6
Thailand	70.2	58.5	46.4	41.2	34.7
Total Crisis Countries (TCs)	247.9	237.5	189.2	172.7	160.7
(TA/TDs) %	53.0	42.5	37.1	35.5	35.4
(TCs/TDs) %	37.8	26.6	22.0	20.5	19.8
<i>Average Maturity (Crisis Economies)</i>					
Less than 1 and 1 year (in percent)	61.2	60.5	51.7	50.3	50.1
<i>Average Maturity (Total Asian Economies)</i>					
Less than 1 year and 1 year (in percent)	61.5	60.3	53.0	52.5	51.4

Note: Asia includes Afghanistan; Bangladesh; Bhutan; British Overseas Territories; Brunei; Cambodia; People's Republic of China; Fiji Islands; French Polynesia; India; Indonesia; Kiribati; Democratic People's Republic of Korea; Republic of Korea; Lao People's Democratic Republic; Macao; Malaysia; Maldives; Mongolia; Myanmar; Nauru; Nepal; New Caledonia; Pakistan; Papua New Guinea; Philippines; Solomon Islands; Sri Lanka; Taipei, China; Thailand; Tonga; Tuvalu; US Pacific Islands; Viet Nam; Wallis-Futuna Islands; Western Samoa. Singapore and Hong Kong, China are treated as offshore banking centers and are not included.

Source: BIS (1999) "Consolidated International Banking Statistics for End-June 1999" November and BIS (1997), "The Maturity, Sectoral and Nationality Distribution of International Bank Lending: Second Half 1996," Basle July.

lending), this picture changed rapidly in the wake of the regional crisis, with Asia accounting for only 35.4 percent of lending by June 1999. Of this, the amount directed specifically to the crisis economies fell from 37.8 percent in December 1996 to just 19.8 percent in June 1999. In other words, not only has international lending shifted away from Asia as a whole, but of the reduced funds lent to the region a greatly limited sum has been allocated to the crisis economies.

This situation has ensued due to two factors. First, there is evidence of a structural shift away from bank-intermediated lending by Japan⁷ owing to that country's own domestic crisis and an aversion to yen-denominated loans by regional borrowers. Thailand and the Republic of

7. In June 1999, Japanese banks only accounted for 26.1% of US\$287 billion claims to Asia compared with 30.3% of US\$378.8 billion in December 1997 (BIS, 1999, Table 2).

Korea have experienced the smallest reduction in loans from Japan, while Indonesia and Malaysia have been hardest hit.⁸ However, while the reduction in lending from Japan has been partly offset by lending from European banks, the absolute quantity of loans has fallen. Second, the reduction in lending reflects rethinking by developed world lenders about the creditworthiness of the Asian region as a whole and the crisis economies in particular. This risk reassessment has been manifest in higher (credit) spreads on bank intermediated loans and higher yields on bonds trading in secondary markets. Though the price of debt has risen, the significant reduction in lending has increased liquidity concerns for the region.

Information on the average maturity of lending to Asia and to the crisis economies is also provided in Table 3. At the peak of lending in 1996, most loans to Asia (61.5 percent) and the crisis economies (61.2 percent) had a maturity of less than one year. Though the maturity of loans has subsequently been extended, the crisis economies still borrowed 50.1 percent of loans as short maturities in June 1999. However, this figure masks the fact that the increase in average loan maturity is more a function of the nonrollover of short-term loans.

Though not recorded in Table 3, most international lending over the period to the Republic of Korea was directed towards the banking sector (from 65.9 percent in December 1996 to 57.4 percent in June 1999), while lending in the other three crisis economies was aimed at the private sector (an average of 62.5 percent in December 1996 and 69.2 percent in June 1999). The anomaly in the case of the Republic of Korea is probably due to the concentration of the banking market and the financial arrangements in place between the Korean *chaebols*. Other key points relating to international lending to the crisis economies have been the increase over recent years in levels of lending to the public sector rather than to other industry sectors, and the fact that capital inflows through banks were not sensitive to movements in interest rate differentials, resulting in banks increasing their domestic lending once they had borrowed unhedged from abroad.⁹

C. International Bond Issues

Recent Trends. International bond issues comprise bonds issued in Eurobond markets or in foreign domestic bond markets such as in Japan,

8. Details of international bank financing to each of the crisis economies are provided in the Appendix.

9. Kawai and Takayasu (1998) make this point concerning Thailand, though it may be generalized to other crisis economies.

TABLE 4
International Bonds Issued by Asia-Pacific Economies
 (US\$ billion)

Country	Mar 94	Mar 95	Mar 96	Mar 97	Mar 98	Mar 99
Australia	42.1	50.1	53.7	88.5	80.4	86.9
China, People's Republic of	9.6	13.0	12.0	13.0	14.8	13.9
Hong Kong, China	10.9	14.7	12.4	17.5	20.1	22.3
India	3.0	3.3	3.7	4.6	5.9	5.7
Indonesia	1.4	3.1	3.9	5.6	5.8	4.5
Japan	279.8	276.6	226.2	188.4	145.5	127.9
Korea, Republic of	0.0	19.4	23.4	40.6	48.1	48.3
Malaysia	17.7	4.4	5.9	10.1	12.1	12.5
New Zealand	6.5	5.9	5.4	6.3	7.9	7.0
Philippines	0.0	2.0	2.2	6.4	8.0	9.9
Singapore	1.2	1.0	1.2	2.5	3.2	5.7
Taipei,China	3.3	2.4	2.8	3.8	5.7	6.5
Thailand	0.3	4.0	5.4	9.9	11.5	12.4
Total: Crisis Economies	19.4	30.9	38.6	66.2	77.5	77.7
Total: Developed Economies	329.6	333.6	286.5	285.7	237.0	227.5
Total: All Economies	375.8	399.9	358.2	397.2	369.0	363.5

Note: Nepal, Democratic People's Republic of Korea, Pakistan, and Viet Nam are excluded from the table since there were no international bond or note issues recorded. "Crisis Economies" are Indonesia, Republic of Korea, Malaysia, and Thailand. "Developed Economies" are Australia, Japan, New Zealand, and Singapore.

Source: BIS, *International Banking and Financial Market Developments* (various issues), Table 13 "International Bonds by Nationality".

United Kingdom (UK), and US. Details of these issues are provided in Table 4. In 1999, total international bond issues by crisis economies (US\$77.7 billion) were significantly smaller than the intermediated finance offered by international banks (US\$160.7 billion). However, it would be expected that these markets compete with one another on efficiency criteria. The larger size of the intermediated finance market is consistent with a higher entry or cost structure, and may well inhibit the ability of the Asian crisis economies to tap this market as a debt alternative.

International bond financing by the crisis economies has increased from US\$30.9 billion in 1995 to US\$77.7 billion in 1999 (an increase of 128 percent over the period). The Republic of Korea has been the largest issuer, while the level of international bonds issued by Japan has fallen, a function of the well-documented "Japan premium," reflecting the higher yields demanded by investors holding yen bonds in offshore markets. The international issues from the crisis economies have largely focused on bond issues in the US market (termed yankee bond issues) by quasi-government or sovereign borrowers. Though these securities

have to be registered,¹⁰ borrowers have been encouraged to bypass national banking systems and pursue direct security market processes due to declining issuing and compliance costs, and the withdrawal of lending by international banks to the region following the Asian crisis (−4 percent in 1999 and −21 percent in 1998). In addition, while the US Securities and Exchange Commission (SEC) discourages the sale of Eurobonds to US citizens (there are provisions which enable the sale and subsequent trading of Eurobonds as private placements), strong investor demand for high-yielding domestic issues has encouraged issues from better-rated issuers in crisis economies.

Thus, on the one hand, US investors have recently emerged as the largest buyers of crisis economy bonds, while US financial intermediaries have historically demonstrated a lack of interest in pursuing intermediated bank lending business in crisis economies. This apparent anomaly is explained by the sanctity of the US financial system and investors' faith in the US legal process. The US financial system is better able to resolve the information asymmetries that exist between crisis economy borrowers and potential investors, while simultaneously offering better investor protection than that provided by financial intermediaries operating in the domestic financial environment.

Despite the noninvestment grade status of most of these domestic US issues, investors can take comfort from their quasi-government or sovereign status. Historically, few nongovernment or quasi-government issuers have tapped these markets, since they have little or no issuance history and lack the marketability of a sovereign issue. The interest rate spreads of unknown or new issuers demanded by the markets has also been wider than those demanded by similarly rated European or US corporations in recent years, and may have discouraged borrowers.

The attractive feature of the yankee market is that it is available to the noninvestment grade corporate issuers (credit rating lower than BBB) from crisis economies. Apart from Indonesia (which is currently noninvestment grade), corporate issuers in other crisis economies have a sovereign ceiling at the investment grade level (see Table 5 below). Emerging market issuers are generally unable to tap the international Eurobond market,¹¹ which has a preference for investment grade issues,

10. Domestic bond issues in the US must be registered with SEC under the US Securities Act of 1933.

11. Bond credit rating agencies categorize corporate bond issuers into nine major classes according to perceived credit quality. These ratings classes include investment grade issuers: AAA, AA, A, and BBB, and noninvestment grades: BB, B, CCC, CC, and C. Bonds with ratings below C are bonds in default or of

and is also largely a US-denominated market.¹² From the borrower's perspective, however, the degree of substitutability of these different markets is ultimately a function of cost. For example, there were significant increases in the level of offshore issues prior to 1995, largely due to the decline in spreads of issues over US Treasuries of similar maturity. Following the Asian crisis there was an increase in spreads which discouraged international issues in favor of domestic issues and loans from international banks.¹³

TABLE 5
Credit Ratings of Crisis Economies (as at 10 March 2000)

Country	Standard & Poor's Sovereign Long-Term Debt Rating	
	Foreign Currency	Domestic Currency
Indonesia	CCC+	B-
Korea, Republic of	BBB	A
Malaysia	BBB	A
Thailand	BBB-	A-

International bond issues by the crisis economies were also undertaken against a background of ongoing change in the region's risk transformation capability, through the use of forwards, futures, and options (see Table 6). Key to this has been the changing role of Singapore and Hong Kong, China since the handover to the People's Republic of China. Many international transactions are now being booked through Singapore instead of Hong Kong, China. For example, foreign exchange turnover in Singapore is now US\$139 billion per day compared with Hong Kong, China's US\$78.6 billion (BIS 1999).

bankrupts. The two major agencies use slightly different notation to refer to equivalent credit risk categories. Standard & Poor's use upper-case capitals (e.g., AAA), while Moody's Investor Services use an upper case first character and have any remaining characters lower case (e.g., Aaa). This paper uses the Standard & Poor's notation.

12. Worldwide, the US dollar is the most frequent currency of Eurobond issue, with US\$1,673.4 billion, followed by the Japanese yen at US\$407.1 billion, the Deutsch mark at US\$369.4 billion, the pound at US\$308.3 billion, the French franc at US\$191.3 billion, the Swiss franc at US\$141.5 billion, the Italian lira at US\$117.9 billion, the Dutch guilder at US\$105.3 billion, the ECU at US\$99.3 billion, and finally the Luxembourg franc with US\$37.8 billion in outstandings (BIS, 1998 Table 13B).

13. See Chart 5, Kamin and von Kleist (1999:17) for graphical evidence of the decline in spreads (1991-1997). Lenders favored Asian issues (e.g., spreads on Latin American issues with the same characteristics as Asian issues were 39 percent

TABLE 6
Comparison of International Bank Lending and International Debt Securities of Crisis Economies, 1996–1999

Country	Change in Levels of Bank Lending (Dec 1996 – June 1999)	Change in Levels of International Bond Issues (Mar 1996 – Mar 1999)
Indonesia	–11.7	+3.1
Korea, Republic of	–6.5	+48.3
Malaysia	–3.6	–5.2
Thailand	–35.5	+12.1

Risk transformation capability is crucial when the bulk of both intermediated finance and international bonds are denominated in nonlocal currencies. For example, apart from some offshore issues denominated in Hong Kong, China and new Taiwan dollars, regional borrowers usually issue securities in US dollars. To avoid potential translation losses arising from the revaluation of foreign currency-denominated bonds, issuers would normally undertake a foreign currency swap into local currency and an interest rate swap from fixed to floating rate coupons. The absence of these derivatives in a local market would effectively restrict the hedging alternatives available to a corporation.

There have been a number of transactions in 1999, which have highlighted the ability of Asian issuers to tap international markets. Specific transactions include (i) Federation of Malaysia's US\$1 billion sovereign bond issue priced at 330 basis points; (ii) Development Bank of Singapore's US\$750 million issue priced at 200 basis points (2 percent) above US Treasury paper; (iii) Globe Telecom and Bayan Telecom of the Philippines' issue of US\$220 million and priced at 709 basis points over US Treasury paper; and (iv) Republic of Korea's US\$3 billion fixed rate 10-year bond issue priced at 300 basis points.

The key features of these transactions, which encouraged high-yield investors, were the size of the issue (which ensured adequate liquidity), the size of the spread (which compensated investors for the risks of holding emerging market bonds), and the marketing of the issues (which included government and Central Bank representation during the

higher). This may be due to the fact that (i) Latin American and Eastern European countries exhibited greater volatility than Asian economies (K and VK: 18), and/or (ii) greater supply, since Latin American countries issue more bonds than Asian countries (Eichengreen and Mody (1997). But as K and VK note, Asia, while not issuing bonds, tends to take out more loans. This suggests economic stability as the key factor for deciding spreads.

international promotion or “roadshow” prior to the actual issue arranged by high-profile and credible bookrunners).¹⁴ Also, each of the issues had a simple fixed rate pricing structure and were quasi-government, if not sovereign, issues—apart from the Philippines’ Globe Telecom and Bayan Telecom, which were private sector issues. It is unlikely that a more complex structure (for example having a call feature) would have found favor with investors, or that smaller tranches offered over a range of maturities would have satisfied the market’s desire for liquidity,¹⁵ since smaller issues fragment the distribution of bonds. However, the key feature of very large (“jumbo”) Eurobond issues by prime name corporations is that they are all simple fixed rate US dollar-denominated securities.

Implications

The replacement of intermediated finance with international bond issues suggests a degree of substitutability between these two forms of financing. However, the prevalence of issues by quasi-government or sovereign issuers reflects reluctance by international investors to hold nonsovereign paper, suggesting that substitute forms of financing are only available to high quality issuers. Such reluctance, at this time, effectively caps the quantity of debt that could be placed into the international bond markets. Alternately, the markets may display the crowding out of corporate issuers by the public sector, or be unable, rather than unwilling, to price corporate debt, since appropriate infrastructure (such as benchmark yield curves) is not available.

While bond issues and intermediated finance may be substitutes for some risk classes of borrower, Table 6 (which provides a comparison of the changes in international bank lending and international bond issues in the period following the Asian crisis) clearly shows that increases in international bond issues have not adequately replaced the reduction in the levels of international bank lending in Indonesia, Malaysia, and Thailand. Only the Republic of Korea has been able to successfully tap international bond markets for additional funding. While each country’s experience has been

14. Capital Data Bondware (*Euromoney*) generally list the following firms as the major bookrunners of emerging market bonds: JP Morgan, Merrill Lynch, CSFB, Union Bank of Switzerland, and Lehman Brothers.

15. It is difficult to assess what issue size is necessary to maintain adequate liquidity. One of the world’s largest Eurobond issuers (Federal Home Loan Mortgage Corporation or Freddie Mac) suggests one bullet maturity issues of at least US\$4 billion every quarter. (*Euromoney* June 1998: “Borrowers, A Mad Rush for Liquidity”).

different, the reduction in funding by international lenders is part of a much larger withdrawal of private sector funds from the region (see Table 7). The liquidity aspect of the Asian crisis may be addressed by increasing the number of long-term financing options through the development of more viable domestic bond markets in crisis economies, and by improving the access of these borrowers to international bond markets.

TABLE 7
Financial Flows to Emerging Market Economies by Region
(US\$ billion)

	1996	1997	1998	1999
<i>Private Flows, Net</i>	327.9	265.7	147.8	148.7
Latin America	97.3	107.7	97.5	68.8
Europe	50.4	74.5	35.1	31.9
Africa/Middle East	3.8	15.7	9.4	8.7
Asia/Pacific	176.3	67.9	5.8	39.3
Five Asian Economies	108.1	-0.2	-36.4	-3.7
<i>Official Flows, Net</i>	7.6	38.9	52.8	11.9
Latin America	-10.5	-2.6	15.7	5.5
Europe	11.2	6.1	8.1	3.0
Africa/Middle East	1.8	-1.3	-2.2	-1.0
Asia/Pacific	5.0	36.7	31.2	4.3
Five Asian Economies	-1.6	29.9	26.9	1.4

Note: The Five Asian Economies are Indonesia, Republic of Korea, Malaysia, Philippines, and Thailand.

Source: The Institute of International Finance, Inc. (1999).

III. An Overview of Domestic Bond Markets in Crisis Economies

A. Background

While crisis economies have historically relied on intermediated finance for debt funding, there is evidence that direct securities issues are gradually becoming a viable form of financing. Each of the crisis economies has had different experiences in this regard, in that there has not been a consistent approach to the development of individual bond markets, nor has there been a concerted attempt to unilaterally develop bond market infrastructure across the region. For example, attempts to establish an Asia-Pacific securities settlement system by the ADB have been unsuccessful. Since the processes involved in trading, issuing and settling securities are transaction-based and subject to economies of scale and scope, these processes lend themselves to unilateral approaches that

secure and maintain efficiencies. The objective of the next section is to describe the trends across the Asia-Pacific region, and then to focus on the bond markets in each of the crisis economies. This chapter provides an overview of key features of each of these markets. The later chapters provide an insight into those factors which have hindered the development of bond markets, and propose strategies for their development.

B. Recent Trends of Bond Financing

A comparison of bond markets in the Asia-Pacific region is provided in Table 8. The data in this table is obtained from sources including the BIS and the Reuters Fixed Income Database. While there are limitations to the available data, the Table makes a number of key features evident.

First, there has not been a significant increase in the size of the crisis economies' domestic bond markets between 1996 and 1999 (US\$320 billion in 1996 and US\$308 billion in 1999). In other words, there was no compensating increase in domestic market issues to offset the reduction in international bank lending and the poor performance in international bond markets. It is worth noting that while Japan saw a considerable reduction in international bond issues during the same period (from US\$226 billion to US\$128 billion), the level of domestic bonds issued increased substantially (from US\$4.862 trillion to US\$5.131 trillion). This highlights the advantage of having the infrastructure to facilitate the substitutability of debt. Second, the proportion of total debt issued by the public sector is relatively low. Since the overall size of each of these markets is also small, this suggests that benchmark securities are unlikely to be liquid or frequent in maturity. Market participants would therefore be unable to construct accurate government yield curves for use as a basis for pricing corporate debt issues. Overall, the data suggest that there has not been any sustained development of domestic debt markets in recent years. This highlights the need to develop policies to facilitate development and ensure future access of corporations to a suite of financing alternatives.

IV. Major Obstacles to Development of Domestic Corporate Bond Markets

A. Traditional Negligence of Domestic Bond Markets

The traditional negligence of domestic corporate bonds by the industry sector in the crisis economies is largely due to (i) cheaper financing through overseas bank borrowing; (ii) bank dominated domestic financial systems; and (iii) agency problems arising from family-owned corporations.

TABLE 8
Domestic Debt Markets in Crisis Economies
Compared with Key Regional Economies
 (US\$ billion)

	Mar 95	Sep 95	Mar 96	Sep 96	Mar 97	Sep 97	Mar 98	Sep 98	Mar 99
Australia	155.40	162.80	174.90	180.30	189.60	173.00	163.00	154.10	170.80
(% Public Sector)	(71.36)	(70.82)	(69.41)	(66.44)	(63.98)	(60.35)	(57.98)	(52.50)	(50.50)
China, People's Republic of							146.50	152.90	196.40
(% Public Sector)							(67.92)	(64.94)	(64.97)
Hong Kong, China							29.00	29.00	30.60
(% Public Sector)							(14.78)	(14.48)	(18.96)
Indonesia*		0.8		1.1		1.9		1.8	1.3
(% Public Sector)									(32.5)
Japan	5,394.30	5,095.20	4,979.80	4,862.00	4,548.70	4,663.70	4,438.10	4,329.90	5,130.80
(% Public Sector)	(68.73)	(69.66)	(69.03)	0	0	(70.93)	(70.74)	(72.02)	(72.05)
				(70.12)	(69.91)				
Korea, Republic of			230.20	238.80	222.70	233.80	164.60	199.00	235.00
(% Public Sector)			(18.77)	(17.92)	(19.08)	(19.12)	(19.56)	(19.80)	(21.40)
Malaysia				69.40	74.60	60.40	59.60	55.30	61.30
(% Public Sector)				(43.66)	(39.41)	(37.42)	(34.73)	(37.25)	(37.03)
New Zealand	19.50	20.60	20.60	22.20	19.90	18.60	59.70	15.10	16.30
(% Public Sector)	(100.0)	(100.0)	(100.0)	(100.0)	(100.0)	(100.0)	(26.13)	(100.0)	(100.0)
Singapore			49.00	49.00	53.50	50.6	015.80	15.10	18.60
(% Public Sector)			(94.90)	(94.90)	(95.51)	(95.45)	(86.08)	(86.09)	(89.25)
Thailand*		6.50		10.9		11.3		12.1	10.8
(% Public Sector)		(100.0)		(30.3)		(30.2)		(26.8)	(56.4)
Total: Crisis Economies				320.20		307.4		268.2	308.4
Developed Economies	5,569.2	5,278.6	5,224.3	5,113.5	4,811.7	4,905.9	4,676.6	4,514.2	5,336.5
All Domestic Debt	5,569.2	5,278.6	5,558.1	5,530.1	5,217.5	5,321.1	5,179.9	5,054.1	5,980.1

Note: (i) The Table records the total (size) of domestic debt markets in US dollars as reported in Table 15 "Domestic Debt Securities", Bank for International Settlements *International Banking and Financial Market Developments* (various issues) for Asia-Pacific and key regional economies. Nepal, Democratic People's Republic of Korea, Pakistan, Philippines and Viet Nam are excluded from the Table since there were no domestic debt issues recorded; (ii) The "Crisis Economies" are Indonesia, Republic of Korea, Malaysia, and Thailand; (iii) The "Major Developed Economies" are Australia, Japan, New Zealand, and Singapore; (iv) The figures in parentheses are the percentage of the total issued by the public sector. The remainder is the amount of private sector domestic issues; (v) The March 1999 figures for Indonesia and Thailand were not published in the BIS Tables and are estimates based on the Reuters' Fixed Income Database; (vi) The pre-1999 figures for Thailand are year-end figures from the Bank of Thailand; (vii) The pre-1999 figures for Indonesia are year-end estimates from *Asiamoney*, May 1999—the decomposition by sector is not available; (viii) The March 1998 figures for Singapore reflect the different treatment of the issues by the Central Provident Fund (CPF) of Singapore by the BIS. Pre-March 1998 data include these CPF bonds issues.

Cheaper Financing through Overseas Bank Borrowing. For a long time, most of the crisis economies have been taking steps to liberalize their financial sectors, and immediately before the crisis their domestic financial markets were virtually fully open to foreign capital. In the case of Indonesia, Republic of Korea, and Thailand, domestic banks, finance companies, merchant banks, and large conglomerates could borrow foreign funds with almost no regulatory restrictions or supervisory screening. Foreign borrowings were sometimes encouraged by the financial authori-

ties to quickly fill the domestic financing gap. It was therefore not surprising that domestic financial institutions and industrial corporations borrowed huge amounts of foreign funds, generally of short maturity (it was possible to extend or rollover the borrowings). The major factors that accelerated such borrowings were a substantial difference between domestic and foreign interest rates and a rigid foreign exchange policy, causing a significant appreciation of local currencies.¹⁶

Before the crisis, domestic lending rates were much higher in Indonesia and Thailand than the one-year London interbank offered rate (LIBOR) rates on US dollar lending, while the gap between domestic and overseas rates was moderate in the Republic of Korea and Malaysia. The gap between the two rates in the early 1990s was as high as 12–16 percentage points per annum in Indonesia, and 5–8 percentage points per annum in Thailand. In the first two countries, domestic lending rates were generally roughly 2–5 times higher than the LIBOR each year. Under these circumstances, together with the misalignment of exchange rates as discussed below, domestic banks and corporations, as rational economic entities, must have made best efforts to maximize their borrowing from international financial markets.

The domestic interest rates in all the economies before the crisis were much higher than international interest rates. Table 9 shows the trends of interest rates in the crisis economies as well as in international financial markets.

TABLE 9
Comparisons of Domestic and Overseas Interest Rates^a
(percent per annum, period average)

	1993	1994	1995	1996	1997	1998	Oct 1999
Indonesia	20.6	17.8	18.9	19.2	21.8	32.2	22.8
Korea, Republic of	8.6	8.5	9.0	8.8	11.9	15.3	9.0
Malaysia	9.1	7.6	7.6	8.9	9.5	10.6	6.8
Thailand	11.2	10.9	13.3	13.4	13.7	14.4	8.3
LIBOR ^b (US\$)	3.64	5.59	6.24	5.78	6.08	5.53	5.7(Jul)

^a Commercial bank lending rates, unless otherwise stated; ^b for one year.

Source: ADB, *Key Indicators*, and IMF, *International Financial Statistics*, various issues.

16. An expectation that the local currency will not depreciate more than the interest rate differential between the two countries encourages unhedged foreign currency borrowing. International parity relationships predict that over time interest rate differentials equal the actual depreciation or appreciation of floating-rate currencies.

Table 10 shows the purchasing power parity (PPP) indices of the crisis economies in the 1990s. These were calculated on the basis that a currency's nominal exchange rate against the US dollar (an index for which 1990 = 100) is compared with a relative consumer price index (CPI), derived from the local CPI divided by the US CPI. If this is 100, the currency's value against the US dollar, as of 1990, remains unchanged. If it is lower (higher) than 100, the currency is overvalued (undervalued) compared to the 1990 level. It is a simplified PPP index in that only the US CPI, rather than that of all major trading partners, is used. Nevertheless, it could provide the general trend of the real value of each currency in the pre-crisis 1990s. The Table suggests that all the countries' currencies were overvalued during this period, especially in Indonesia, Malaysia, and Thailand.

TABLE 10
Purchasing Power Parity of Crisis Economies' Currencies
(1990 = 100)

	1990	1991	1992	1993	1994	1995	1996
<i>Indonesia</i>							
Relative price (I)	100	104.9	109.6	119.7	128.0	135.7	140.6
Exchange rate(II)	100	105.8	110.2	113.3	117.3	122.0	127.1
PPP(II/I)	100	100.9	100.5	94.6	91.6	89.9	90.4
<i>Rep. of Korea</i>							
Relative price (I)	100	104.9	108.1	110.0	113.9	115.8	118.1
Exchange rate(II)	100	103.6	110.3	113.4	113.5	109.0	113.7
PPP (II/I)	100	98.8	102.0	103.1	99.6	94.1	96.3
<i>Malaysia</i>							
Relative price (I)	100	100.2	101.8	102.4	103.5	106.0	106.7
Exchange rate(II)	100	101.7	94.2	95.2	97.0	92.6	93.0
PP(II/I)	100	101.5	92.5	93.0	93.7	87.4	87.2
<i>Thailand</i>							
Relative price (I)	100	101.4	102.4	102.8	105.4	108.4	111.5
Exchange rate(II)	100	101.4	101.8	101.0	99.6	100.1	101.5
PPP(II/I)	100	100.0	99.4	98.2	94.5	92.3	91.0

Source: IMF, *International Financial Statistics Yearbook 1998*.

Combining the interest rate gap and the PPP index shows that foreign borrowing was a profitable precrisis financial method in these countries. International interest rates were always cheaper than local rates, encouraging domestic firms and financial institutions to borrow from abroad. The borrowing was further protected by the exchange rate regime that has continued to keep the local currencies overvalued, making foreign loans even cheaper.

Bank-Centered Domestic Financial Systems. These countries have generally attached higher policy priority to the banking sector than to capital markets. Although capital market development has not been neglected, the banking sector was treated as the most important financial sector for various reasons. In the process of seeking a high growth strategy since the early 1960s, the banking sector served as the main supplier of financial resources, which were mobilized from both domestic and foreign markets. Capital markets remained underdeveloped, preventing them from financing industrial projects through diversified sources. As stated above, corporate bond markets are particularly sluggish in all these countries. The significant progress achieved by the Republic of Korea has only occurred recently since the crisis.

Bank-centered financial systems have also favored the high economic growth outcomes of many developing economies, since they provide more effective monitoring in financial environments characterized by asymmetric access to financial information.

Under these circumstances, it may be argued that banks are better able to ration scarce resources to priority sectors, although there is evidence that these decisions may be influenced by both outside parties (e.g., the decision by four Indonesian state banks to lend US\$2.7 billion to then President Suharto's son, Bambang Trihatmodjo, to build the Chandra Asri petrochemicals plant), or family members in first family-owned banks and corporations. In the latter case, family members are able to influence managerial objectives, resulting in resources not being optimally allocated. These outcomes reflect poor governance structures that fail to address underlying legal problems.¹⁷

Agency Problems Arising from Family-Owned Corporations. Industrial firms in developed economies generally rely upon debt financing rather than issuing new equity, which dilutes control and exacerbates agency problems. The choice of financing has been shown to follow a "pecking order" (Myers 1984), where first choice is given to internal sources of funds (e.g., retained earnings), then external sources in the form of additional debt or equity, in both private and public markets. Mitigating agency concerns and those problems arising from asymmetries in information (usually the opacity of financial information), and differences in legal protection, in terms both of the content of the laws and the quality of their enforcement (La Porta et al. 2000), appear to dictate the choice between the various combinations of debt and equity instruments.

17. Jensen and Meckling (1976) originally investigated agency problems.

Many emerging countries lack the financial and technical infrastructure to enable the satisfactory development of public security markets. As a result, traditional firm financing is largely through banks, which assume a vital corporate governance role as part of their intermediation activities. However, the governance function may be influenced by the significant ownership of lending institutions by entrepreneurs and their families, who may also occupy prominent management positions, or by the significant cross-ownership between financial intermediaries and corporate borrowers. These insiders may get preferential treatment through the diversion of various assets, expense maximizing behavior in its various forms, or influencing the investment and dividend decisions of the firm.

The ownership structures of both banks and other financial intermediaries and large private sector firms in the crisis economies may be categorized as examples of the “family-state model” where either a small group of founding families, or a pervasive state, plays an important role.¹⁸ These structures vary from the nominally privatized and largely state-owned Korean banks (with nonbank intermediaries generally privately-owned) to the largely family-owned banks of Malaysia (which directly control many of the nonbank intermediaries).¹⁹

Apart from the Korean nationwide banks, the domestic financial institutions in the other crisis economies are generally small by world standards, so the contagion effects of imprudent lending to local firms can be more extreme. There is also pressure from the government (e.g., in Malaysia) for specific intermediaries to consolidate, to gain scope and scale efficiencies while still maintaining a local character, since the banks play an important role in understanding the cooperative dimensions that exist between family, kin, and the community. In effect, local banks are required to solve the potential information opacity and asymmetry problems between firm borrowers and providers of funds that have arisen due to poor disclosure and accounting standards.

Aside from concerns over equity dilution, and although not generally discussed in the empirical literature on agency theory, the capital structure choices of firms (both financial and non-financial), may also be made to maintain the asymmetries in information that exist between and

18. See Nestor and Thompson’s (1999) discussion of the different systems of corporate governance, which vary from the outsider model (in the US and the UK), to the insider model, of which the family/state model is a subcategory.

19. Casserley and Gibb (1999: Exhibit 11.3) estimates significant family ownership of the 15 largest banks in Thailand (27 percent of stock), Indonesia (47 percent of stock), Malaysia (59 percent of stock) and Philippines (60 percent of stock) at year-end 1997.

within family owners, on top of the well-documented asymmetries that exist between owners and managers. For example, there has been an ongoing debate in the economic development literature on the expected behavior of family members in family-owned firms when additional funds are required for the firm's expansion. These arguments center upon the information asymmetries between family members, and may be seen as an extension of theories popular in development literature where kinship (family) links are seen as an obstacle to economic development. The argument suggests that family members, in firms where there is a significant founding family presence, may be reluctant to provide additional savings to support new investment, since this signals information on individual wealth to other family members. The family members who may not be directly involved with the firm may then attempt to free ride on the effort of their wealthier kin. Firm managers may be able to avoid this source of conflict and borrow directly from financial intermediaries, thus avoiding the ancillary problems of equity dilution (if new nonfamily equity is brought into the firm) or equity readjustment within family groups.

However, the use of intermediated finance to overcome equity readjustment concerns between family members has been complicated by the use of negative pledges in loan documentation. Recently, banks have come to rely upon negative pledges, which may confer proprietary rights upon the lender. To overcome this equitable lien, firms will prefer to issue securities if it is cost-effective to do so. However, this may depend upon the relationship between the firm managers and the main group of shareholders. Nonowner managers may resolve the information asymmetries between family and nonfamily owners by the issuance of debt securities or through stock listings. Whether owner-managers would be reluctant to do so is an outstanding empirical question. However, this would heavily rely on the funding costs (loan rates and bond rates). Loan rates in crisis countries have, until recently, tended to be lower than bond rates, discouraging bond issues.

The capital structure of smaller firms, which are in a majority in all the crisis countries except the Republic of Korea, also varies over time, suggesting that at an aggregate level, firm financing preferences may be a function of the business cycle. Thus small innovative startup firms (high-risk, high growth) are mostly reliant upon the entrepreneur's (or family's) equity. As these firms become larger they are able to obtain a variety of loans from financial institutions and suppliers. Occasionally, some firms obtain equity participation called "angel finance" from wealthy individuals or venture capital firms not related to the entrepreneur. Alternately, lower risk, lower growth firms tend to access debt. Without collateral

or a financial track record, information opacity will prevent these lower growth firms from obtaining finance from bond markets.

B. Major Obstacles to Bond Issuance

The general negligence of the bond market is a broad factor in the underdevelopment of the corporate bond market. Several technical obstacles are discussed below.²⁰

Lack of a Benchmark Yield Curve

A major impediment to the development of corporate bond markets in the crisis countries has been the lack of interest rate benchmarks for bond pricing.²¹ When benchmarks are present, there may be an inability to strip these benchmark government bonds to zero coupon bonds. Usually, benchmark yield curves are constructed by market participants from the suite of outstanding government bonds across a range of maturities. Mathematical interpolation enables a continuous curve to be constructed, which then serves as a “benchmark” for the revaluation of existing portfolios and also for the pricing of corporate issues. Market convention is to add a time-varying spread to the risk-free government rate to establish the yield of a corporate security. This form of construction requires accurate bond prices to be available in liquid secondary bond markets. Where markets for government securities are not liquid, or where certain maturities of bonds are not available, then market participants must construct these curves from a variety of alternate securities, such as implied yields in long-term forward markets or the rates implied by the fixed rate leg of an interest rate swap.

Given the implied parity relationships between different financial products it is essential that deep over-the-counter (OTC) or exchange-traded markets co-exist with bond markets to ensure pricing accuracy. Daily turnover in foreign exchange and interest rate derivatives markets in the Asia-Pacific region is described in Table 11.1 and 11.2, which is based on BIS survey data. No interest rate derivative data were collected for Indonesia or Thailand, although other market sources suggest that

20. See Kim (1999).

21. In the 1950s the corporate bond market in the US was able to develop without the presence of government benchmarks. However, in those circumstances lesser credit issuers were priced over prime name corporate issuers instead of governments.

turnover, albeit very small, does exist. The Republic of Korea and Malaysia also display very small levels of daily turnover even relative to small, developed economies such as New Zealand. Another method of zero-curve construction is through the implied zero rates from long-dated forward contracts or currency swaps. The daily turnover of these instruments is also very small, with Indonesia, Republic of Korea and Malaysia having approximately US\$1 billion of daily turnover, while Thailand has US\$2.3 billion. This volume in total is less than daily turnover in New Zealand. It is clear that the use of alternate sources for the construction of benchmark curves will be difficult, due to the lack of liquidity in the underlying instruments.

TABLE 11.1
Foreign Exchange Derivatives Daily Turnover in
Selected Asia-Pacific Countries, April 1998

Country	Total Turnover	Local Turnover	
		Amount	Share to Total (percent)
Australia	28.75	16.50	57.4
China, People's Republic of	—	—	—
Hong Kong, China	48.94	13.53	27.6
Indonesia	1.04	0.76	73.08
India	1.29	0.90	69.8
Japan	91.65	77.04	84.06
Malaysia	0.80	0.54	67.5
New Zealand	4.97	3.75	75.5
Philippines	0.40	0.28	70.0
Singapore	85.40	5.23	6.1
Korea, Republic of	1.05	0.32	30.4
Taipei, China	1.52	0.37	24.3
Thailand	2.28	1.93	84.6
UK	468.26	77.07	16.5
US	235.37	220.02	93.50

Note: 94.47 percent of World Average FX Derivatives Turnover is specified against the US\$. Turnover includes OTC forwards, FX swaps, currency swaps, and options.

Source: BIS Survey

TABLE 11.2
Interest Rate Derivatives Daily Turnover in
Selected Asia Pacific Countries, April 1998

Country	Total Turnover	Interest Rate Swaps	
		Amount	Share of Total (percent)
Australia	2.830	1.272	44.9
China, People's Republic of	—	—	—
Hong Kong, China	2.437	1.939	79.5
Indonesia	—	—	—
India	—	—	—
Japan	31.623	17.612	55.7
Malaysia	0.001	0.001	100.0
New Zealand	0.421	0.101	24.0
Philippines	—	—	—
Singapore	5.347	4.183	78.2
Korea, Republic of	0.007	0.007	100.0
Taipei, China	0.116	0.115	99.0
Thailand	—	—	—
UK	122.928	68.754	55.93
US	58.441	31.368	53.67

Note: 58.5 percent of World Average IR Derivatives Turnover are swaps, 28.1 percent are FRAs, and 13.4 percent are options. Turnover includes OTC, FRAs, swaps and options.

Source: BIS Survey.

Attempts have been made by the crisis economies to solve these problems, however. In Indonesia, a market for short-term Central Bank securities (Sertifikat Bank Indonesia) has existed since 1983,²² but it has not played any meaningful role in providing a useful benchmark for long-term debt securities. Therefore, various proxies have been attempted: (i) the rates of 3–6 month time deposits plus a premium (generally 1–4 percentage points per annum), and (ii) a yield curve with maturities of up to 30 years from the Indonesian swap offer rate (IRSOR) quoted by investment banks on the Yankee bonds issued by the Government of Indonesia (GOI). However, none of these could be a perfect substitute for a government bond-based yield curve. A major reason for the GOI's disinterest in developing the government bond market was its strong preference for a balanced budget policy.

22. In 1983, Indonesia took several measures to liberalize the financial sector, including interest rate deregulation and initiation of the Central Bank certificates.

In the Republic of Korea, three-year bank-guaranteed corporate bonds have been used as benchmark facilities for the entire bond market. Government bonds present a range of problems, including arbitrarily set low interest rates and mandatory purchase requirements in some cases (e.g., housing bonds and telephone bonds), and lack of coordination between government ministries concerning issuance and administration of their bonds, which prevent the bonds from becoming benchmark facilities. Besides the guaranteed corporate bonds, a few other low-risk bonds, such as the Type I National Housing bond, five-year Regional Development bond, three-year Land Development bond, and 364-day Monetary Stabilization bond, also serve as quasi-benchmark bonds. A reliable yield curve cannot be established, however, because these bonds all involve different types of problems. Even the guaranteed bond faces the possibility that guaranteeing banks themselves may go bankrupt, while banks are increasingly reluctant to provide guarantees since the Asian crisis.

Also in early October 1999, the Thai Bond Dealers' Club (BDC) developed the Thai Government Bonds Benchmark/Yield Curve. It is derived from average bid prices quoted by nine counterparties of the Bank of Thailand. The Thai BDC publishes the yield curve at the end of each trading day. Benchmark bonds must have remaining maturities of approximately 1, 2, 5, 7, or 10 years, and amounts outstanding of at least B 20 million.

Narrow Investor Base

The investor base is narrow in most countries. This is associated with (i) the restricted, overregulated contractual savings system; (ii) underdeveloped mutual funds; (iii) overregulation of the asset management industry, and (iv) a limited role for insurance companies in capital markets. Subjecting bond markets to nonmarket forces, such as the practice of forcing captive investors to purchase bonds at below-market yields, also restricts demand. In the bank-dominated financing system, major clients of banks are also inclined to put their surplus funds into bank deposits rather than bond markets. Such a bank-client relationship has contributed to the narrow investor base. Lack of understanding of bonds by investors is another factor. High savings have been channeled mostly into banks in those countries that provide only short-term financial instruments.

Limited Supply of Quality Bond Issues

The limited number of quality bond issues impedes the liquidity and construction of benchmark instruments. These benchmark issues also

require sufficient spacing between maturities to ensure that the curve is extended to a reasonable maturity in line with market expectations and needs.

There are few viable debt instruments because of (i) the poor credit standing of issuing corporations; (ii) statutory restrictions and financial regulations on the issuance of bond instruments; (iii) repressive regulatory processes; and (iv) a reluctance to issue when there is a fiscal surplus or near surplus. Most corporations in these countries experienced excessive leverage through bank loans and foreign borrowing, which resulted in poor financial status. Poor corporate governance, in particular the lack of transparency in financial transactions and unsatisfactory accounting practices, further reduced investor confidence in corporate bonds. In most of the countries surveyed, laws governing the bond markets can barely cope with the demands of trading and regulation of sophisticated financial transactions. Where laws do appear to be adequate, regulators are unable to enforce them. This renders investments in the bond markets yet more uncertain, reduces overall demand for such investments, and makes the markets even shallower. Finally, while there is clearly reluctance on the part of governments to borrow when they have a fiscal surplus, there are regional examples (e.g., Singapore and the Government Investment Corporation (GIC) where the process of debt and investment management and maintenance of the benchmark bond infrastructure successfully coexist.

Continued deterioration of the credit standings of issuing corporations as a result of the Asian crisis also reduces the supply of quality bonds. Governments must also be aware that undue legal restrictions on the amount of bonds that corporations can raise, or on the number of eligible issuers, interfere with the proper operation of market forces in bond markets (and hence unduly limit supply).

Inadequate Bond Market Infrastructure

The inadequate bond market infrastructure in the DMCs is due to the absence of (i) competitive auctions; (ii) a secondary market trading system where real-time price and volume information is readily available; (iii) an advanced clearing and settlement system for bonds; (iv) a stronger role for credit-rating agencies; and (v) hedging instruments for long- and short-term interest rate risk. High transaction costs are also a major impediment.

For the bond market to be developed, mechanisms are needed to ensure that the market value of securities reflects correct market perceptions of relative borrower risk and other fundamentals. For this purpose,

bond markets should be competitive and all participants should have access to information to help them value securities correctly. To this end, an economy must have a stable, consistent, and accessible framework for the timely and accurate analysis and interpretation of information about issuers and securities. Exhaustive, objective, and independent research by credit rating agencies, investment banks, and other financial service institutions is also essential for bond market development. Some countries, such as India, Republic of Korea, and Malaysia, have allowed the establishment of credit rating agencies to foster competitive ratings. However, with low demand for ratings due to shallow bond markets, the efficacy of such a step is questionable.

High transaction costs resulting from such factors as stamp taxes, which curtail liquidity in both primary and secondary bond markets, may also hold back bond market development. Most of the countries levy transaction taxes, such as stamp taxes and capital gains taxes, on the trading of bonds and other securities in the financial markets. To stimulate liquidity in their domestic bond markets, Malaysia and Thailand have eliminated stamp taxes to lower transaction costs and encourage the trading of securities. Regulations that require institutional investors (especially banks or insurance companies) to set aside a proportion of their investments in bonds as regulatory capital or reserves also increase bond market transaction costs. Such requirements, though essentially prudent in nature, impose an opportunity cost on investors that reduces the demand for bonds and other securities.

V. Strategies for the Development of Domestic Corporate Bond Markets

The development of viable corporate bond²³ markets calls for continued and consistent policy efforts over a sustained period. These should deal with both demand and supply side impediments as well as infrastructure problems. Banks account for up to 80 percent of financial assets in Asia, compared with less than 25 percent in the US. This suggests that capital markets, including bond markets, have a promising future in Asia if proper policies are pursued. The following are the most important issues that require governments' vigorous policy efforts.

23. In terms of medium- to long-term industrial financing, corporate bond and medium-term notes (MTN) may be comparable. However, an MTN is different in that it is issued directly to investors without the use of an agent, and there is no secondary market for MTNs.

A. Supply-Side Strategies

Providing an Enabling Environment: Financial Liberalization, Maintaining Adequate Exchange Rate Policy and Regulatory Standards. The capital regime in most Asian economies has been significantly liberalized, allowing flows of foreign funds across countries. This trend will accelerate due to the ongoing process of globalization and rapid development in information technology. As a result, domestic industrial sector and financial institutions will increasingly seek the funds with the cheapest interest rate at home as well as abroad. In this situation, domestic interest rates and foreign exchange rates will play a critical role in determining the real effective price of those funds. If the local currency remains overvalued, *ceteris paribus*, foreign borrowing will become attractive, and vice versa. As discussed earlier, crisis countries historically maintained overvalued currencies, providing a significant incentive to foreign borrowing. Financial liberalization needs to be continued and an adequate exchange rate policy must be put in place in order to facilitate both development of domestic financial markets, including bond markets, and to achieve other macroeconomic goals.

Also, while governments must provide an environment conducive to financial liberalization, Central Banks are duty bound to maintain tight regulatory standards and enforcement procedures to ensure investor confidence in the financial system. Critical to this process is the independence of the Central Bank, its success in monetary policy management, and the risk management practices of financial firms.²⁴ Recent examples of regulatory improvement include (i) improvements in the supervision of finance companies in Thailand; (ii) improved asset-quality norms in the Republic of Korea (Korean banks accrue interest on loans due for only one month whereas international standards are three months); (iii) general acceptance that Central Banks subscribe to the Special Data Dissemination Standard (SDDS),²⁵ which details what data can be published and when. (The Bank of Korea and the Korean Ministry of Finance now publish material through a webpage, though the quality and timeliness of the data from the Bank of Thailand is poor.)

24. Note the Institute of International Finance Task Force on Risk Assessment Report (2000:January) that specifies best risk management practice for the private sector.

25. Note the Institute of International Finance report (1999:March): "Report of the Working Group on Emerging Markets Finance" also recommended that this information include the off-balance sheet positions of reporting institutions. See this report for further details on data transparency and disclosure.

Any public sector bond should not receive privileged treatment such as lower prices or rates. Market forces should determine the prices of all bonds. In some developing countries, governments issue a large amount of bonds to finance special projects and budget deficits at lower prices through forcing financial institutions to purchase, or by providing tax incentives to investors. Such practices distort the overall bond markets, while discouraging the corporate bond market.

Reforming Corporate Governance. Good corporate governance helps to protect the legitimate interests of all stakeholders, including the holders of corporate bonds. Many Asian corporations have been accused of weak and unsatisfactory corporate governance in the areas of anticorruption, lack of transparency in financial transactions, and accounting methods and ownership structures which fail to satisfy international standards. These problems have caused, among others, the erosion of investor confidence in corporations' financial documents and the bonds issued by them.

Before the crisis, in the Republic of Korea, mutual payment guarantee arrangements between companies inside the group of *chaebol* were frequently made, and *chaebol*-affiliated financial institutions provided loans to their associated corporations in a manner lacking transparency, undermining confidence in the financial documents of the concerned corporations and financial institutions. In many countries, accounting methods were changed in an *ad hoc* manner. While the crisis countries have redressed these practices, reforming accounting methods to adopt best practice should be expanded to other areas. Improved corporate governance will enhance the quality of corporate bonds. Investor perceptions of intangibles such as corporate integrity, prevention of asymmetric availability of corporate information, and enforcement capabilities of securities market regulators, are a key factor determining the quality of corporate bonds and capital market dynamism.

Although corporate systems differ from country to country, they can be grouped in two contrasting models: outsider and insider models.²⁶ The UK and the US are adopting the former, other countries the latter. The former may be termed as a "market-based model," and the latter a "board-based model." In the case of outsider models, widely dispersed investors own and control the company. If management neglects shareholder value, investors react by selling the shares. In the board-based model, members of the board represent the interests of

26. Thompson (1999).

identifiable groups, and are in charge of disciplining management. The general trend in Asia is for countries to shift from the board-based to a market-based model. However, the market-based model requires sufficient disclosures, a good flow of information, rigorous trading rules, and well-developed investor protection systems.²⁷

B. Demand-Side Strategies

Strengthening the Role of Institutional Investors and Mutual Funds.

The role of institutional investors (pension funds and insurance companies) and mutual funds is particularly important in terms of expanding developing countries' investor bases, because individual investors in these countries are not very familiar with bond markets, resulting in reluctance to invest in corporate bonds. In those economies which have been successful in developing bond markets, the role of institutional investors and mutual funds is seen in the purchasing and selling of various bonds and creation of attractive asset portfolios utilizing those bonds.

In Asia, the Republic of Korea and Malaysia are relatively successful in this context. In the Republic of Korea, establishment of mutual funds was significantly deregulated in 1998. The provision of tax benefits to foreigners investing in domestic fixed income securities is also being considered. In Malaysia, tax exemptions on bond market gains only apply to individual investors and not to institutions. However, there is still a strong need to strengthen the capacity of institutional investors by increasing pension funds (e.g., corporate and banking sector employees) and mutual funds, broadening funding sources, and improving fund management skills. Providing consistency in the tax exemptions available to investors and the encouragement of purchases of bonds by other financial institutions²⁸ will also assist the development of this market.

In Indonesia, only institutional investors, the banking sector, and the newly emerging mutual funds purchase domestic bonds (including government bonds). Before the crisis, foreign investors' holdings of rupiah bonds accounted for 10–20 percent of new bond issues, concentrated in highly liquid ones with good credit standing such as PLN (the state-

27. Specific policies concerning the enhancement of the governance structures in crisis economies have also been analyzed by a number of ADB studies. Also see the discussion of La Porta et al. (2000) on agency problems and legal regimes.

28. The manner in which Indonesian banks hold their reserves is specified under the Banking and Financial Institutions Act. Procedures could be established which facilitate the holding of bonds as bank reserves.

owned electricity company) and BTN (a state bank). The makeup of pension funds' investments before the crisis was about 50–55 percent in time deposits; 10–15 percent in stocks; 10–15 percent in bonds and promissory notes, and 15–30 percent in others, including real estate. The makeup of insurance companies' precrisis investments was about 45–50 percent in time deposits, 4–6 percent in stocks, 12–15 percent in money market instruments (SBI), 8–10 percent in bonds and promissory notes, and 19–30 percent in others, including real estate. Bondholding of these companies was negligible.

The mutual funds, which emerged in 1996, grew fast. Prior to the crisis in 1997, their investment portfolio assets reached a record Rp7.2 trillion, comprising 25 percent money market instruments, 15 percent equities, 50 percent bonds and promissory notes, and the balance in cash. This clearly exhibits the large investment of mutual funds in domestic bonds. Indonesia needs to expand the role of institutional investors and mutual funds by developing pension funds and mutual funds, developing human resources, and broadening funding sources.

International investors have also been encouraged to purchase Asian bonds following the establishment of broader benchmark indices, which offer the advantage of risk diversification. For example, JP Morgan has updated the "Emerging Market Bond Index" (EMBI Global) to be slanted more towards Asian issuers, and now includes three of the crisis economies.²⁹

Robust legal frameworks for perfecting and enforcing security interests are also needed to encourage investors. In Thailand, new bankruptcy legislation is hoped to lift bank lending to businesses by ensuring that banks are able to recover future bad debts. However, Senate amendments set the minimum threshold level at double the proposed levels (debts need to exceed B1 million for individual bankruptcy, and B2 million for corporations) with bankruptcy status able to be lifted after three years instead of the proposed 10 years. These developments appear to have helped secondary market bond turnover with more than half of total turnover now due to corporate bonds³⁰.

29. EMBI Global has a weighting of Republic of Korea 7.5 percent, Philippines 2.9 percent and the new additions of Malaysia 2.5 percent, People's Republic of China 1.6 percent, and Thailand 0.4 percent (Source: *Asiamoney*, September 1999). Other examples include the Strategic Income Fund of Chase Manhattan.

30. *The Nation* (11/1/2000) reported that in December 1999 B18.6 billion of B35.4 billion was attributable to corporate bond turnover.

Private Placement. Private placement of corporate bonds has advantages, particularly in developing countries where the overall bond market is underdeveloped. Securities privately placed are exempt from registration with the SEC because their issuance does not involve a public offering. Corporations themselves and investment banks may find potential buyers of bonds through various means and decide on issuing conditions without resorting to official procedures. This shares some characteristics with bank loans.

In case of the US, the trading of privately-placed corporate bonds has been allowed since the 1990 adoption of SEC Rule 144A, which has brought about major changes in the market. Consequently, there are now two types of private placement markets: the market for 144A bonds and the traditional market that includes non-144A bonds. Rule 144A private placement is now underwritten by investment banks on a commitment basis similar to publicly offered securities. Table 12 indicates the importance of the private placement of bonds in the US, as a source of corporate financing.

TABLE 12
Issuance of Publicly Offered and Privately Placed Bonds by Non-Financial Corporations in the US, 1975 to 1991
(US\$ billion, annual rate)

Type of Bond	1975–1980		1981–1985		1986–1991	
	Amount	%	Amount	%	Amount	%
Public	21.0	58.8	35.6	64.3	87.6	57.4
Private	14.7	41.2	19.8	35.7	64.8	42.6
Total	35.7	100.0	55.4	100.0	152.4	42.6

Source: Frank Fabozzi and Franco Modigliani (1996), *Capital Markets* (second edition), Prentice Hall, page 530.

From the 1970s to the early 1990s, privately-placed corporate bonds accounted for about 40 percent of all corporate bonds issued in the US, a very significant figure. Particularly noteworthy was the increase in privately-placed bonds between 1986 and 1991, partly due to the adoption of SEC Rule 144A in 1990.

C. Developing Infrastructure

Reliability in Credit Ratings. Each country has a few domestic credit rating agencies that provide rating services free of charge or for a service fee. In Indonesia, PEFINDO was established in 1994 by the Ministry of Finance and Bank of Indonesia along with a technical assistance

agreement from Standard & Poor's (SP). Another new agency, Kasnik, Duff and Phelps, was licensed in 1997 and has recently become operational. PEFINDO has rated some 200 companies involving about 250 debt securities (including commercial paper-CP). Requirements for rating of listed bonds and CP have increased the demand for the services. PEFINDO's relationship with SP has clearly helped it gain international credibility. In the Republic of Korea three local agencies are in operation: Korea Management Consulting and Credit Rating Corporation (KMCRC), Korea Investors Service (KIS), and the National Information and Credit Evaluation Corporation (NICE). All publicly issued nonguaranteed bonds must be rated by at least two credit rating agencies and those corporations rated A or higher may issue nonguaranteed bonds.³¹ However, postcrisis nonguaranteed bonds now make up the bulk of the market, illustrating the development of rating services.

In general, however, local rating agencies are not particularly reliable, because of poor rating skills and techniques, limited sources of information, and inadequate accounting practices of corporations. Partnership agreements with internationally reliable agencies such as SP or Moody's, as in the case of Indonesia, will significantly increase the reliability of local rating agencies. In small countries, it would be advisable to use these international agencies rather than to set up local agencies in view of large fixed operating costs.

Creating a Benchmark Yield Curve. The establishment of benchmark yield curves is essential for the pricing of nongovernment securities, since investors traditionally price these securities based on a spread over the equivalent risk-free or government security with the same maturity. A number of regional governments have recognized this (e.g., Australia; Hong Kong, China; and Singapore), and have committed themselves to maintaining the benchmark curve infrastructure despite the absence of a funding need. These curves also facilitate the development of derivatives markets, and provide additional risk transformation capability to financial market participants. Specifically, normal procedure is to interpolate the yield for a particular corporate bond maturity based on spread over a stripped benchmark yield curve derived from a series of on-the-run government bullet bonds.

31. The rating categories of these agencies are similar to Standard & Poor's.

Excepting a few economies such as Hong Kong, China and Malaysia, mid- and long-term benchmark government bonds have not previously existed in Asia's developing economies. There are only short-term benchmark government bonds (including Central Bank issues) or quasi-benchmark bonds such as guaranteed corporate bonds in the Republic of Korea. However, nothing can substitute low risk government bonds. Traditionally, the rapidly developing countries of Asia have maintained balanced or surplus fiscal positions, which discouraged the issuance of any government bonds to finance current fiscal expenditures, although various special purpose government bonds were issued. There was also opposition to creating benchmark Treasury bonds because of fears of accumulating government debts.

By contrast, Hong Kong, China, one of the economies successfully minimizing the impact of the Asian crisis, has made continued efforts—both before and especially since the crisis—to develop Exchange Fund Bills (EFBs) and Exchange Fund Notes (EFNs) (termed hereafter as Exchange Fund paper or EFP). As Hong Kong, China's fiscal status has generally been in surplus, the main objective of the EFP program was to help develop the local debt market by increasing the supply of high quality bonds and creating a reliable benchmark yield curve for Hong Kong dollar debt instruments. The EFP program was introduced in March 1990 with the issuance of 91-day bills. Since then, the program has expanded in both size and tenor, with 182- and 362-day bills being launched in October 1990 and February 1991, respectively, followed by 2-year notes in May 1993, 3-year notes in October 1993, 5-year notes in September 1994, 7-year notes in November 1995, and 10-year notes in October 1996. The EFP has been very well-received by the market and provides a reliable Hong Kong dollar benchmark yield as a result of regular issuance of EFP with varying maturities, thus developing an effective market-making mechanism.

The case of Hong Kong, China may offer a good example for developing a benchmark government bond market in developing economies, despite the fact that it has experienced comparatively much better financial and economic conditions. Recently, the Republic of Korea and Thailand has also initiated a benchmark government bond program. The benefits of a benchmark bond market are much larger than the costs incurred from government debts, which justifies the need to create a government bond-based yield curve. It is essential that benchmark government bonds be highly liquid through the offering of sufficient government bonds across a range of maturities. This facilitates the correct interpolation of yields for nonbenchmark maturities and also helps to prevent distortion of the yield curve through illiquidity-induced volatility.

Considering these issues, Thailand has identified the establishment of a benchmark yield curve as a priority policy area in its overall bond market reform package. Since there is now an ample supply of government bonds arising from the financing of fiscal deficits and the restructuring and recapitalization of financial intermediaries, it has now been possible to establish a market yield curve. Two curves are currently available: the market yield curve based on same day trading provided by the Thai Bond Dealing Center, and a yield curve based on yields as of settlement date provided on the Bank of Thailand website.³²

Regulatory Framework.³³ Although regulatory authorities should make best efforts to avoid discouraging market innovation through their regulatory measures, it is crucial to have an effective and sound framework to regulate and supervise a bond market, intermediaries, institutional investors, and other market participants. This is both for adequate investor protection and to fulfill sound business practices or codes of conduct that reduce systemic risks. This requires a set of clearly defined market rules, a high degree of transparency, and rigorous prudential standards and principles of governance. It is also essential to ensure a combination of internal and external checks and surveillance to monitor compliance with the regulatory framework. There are other responsibilities concerning the role of government as a debt manager that must also be addressed. Briefly, these responsibilities center on the separation of duties between debt management and other Treasury functions.

Transparency and clarity in the regulatory authorities' responsibilities, roles, and objectives is also essential for maintaining a high level of effectiveness and public confidence, as well as to avoid gaps and duplications. To this end, it is important to ensure clear legal definitions of supervisory actions, close coordination and cooperation between different regulatory authorities, and precisely defined regulations for various market participants (diversity of bank and nonbank participants) and financial instruments.

Settlement Systems. The transaction costs associated with trading and issuing securities are subject to economies of scale and scope. Technology improvements and the establishment of Asia-wide settlement systems

32. *op cit.* Meecharoen (1999).

33. APEC Collaborative Initiative on Development of Domestic Bond Markets (August 1999), Guidelines to Facilitate the Development of Domestic Bond Markets in APEC Member Economies.

Europe is emerging as a significant alternate high-yield debt market with approximately US\$45 billion in outstandings in 1999 (Standard & Poor's figures).

would assist the long-term viability of domestic bond markets. The establishment of uniform procedures would provide a first step in this direction. At the specific country level, policy efforts are being made which provide some idea of the challenges ahead. For example, in Thailand the real-time delivery versus payment project (DvP) was started in April 1998 and is due to be completed by the third quarter of 2000. A real time bond price quotation system to newswire services has also been established to improve information flows and pricing mechanisms. Thailand also has a "Master Plan" to serve as an internal guideline for policy implementation and coordination between agencies such as the Thai Bond Dealing Center, Securities and Exchange Commission, and the Ministry of Finance.

VI. Strategies to Tap International Bond Markets

A. Background

It is not possible to apply a uniform set of strategies to both domestic and international bond markets, since the domestic strategies identified in the previous chapter may not be relevant to international markets. Notwithstanding this comment, concerns over governance, disclosure and pricing impede the development of both markets.

Also, given the generally low credit ratings that nonsovereign issuers would achieve, with the exception of debt issues in the US and to a lesser extent Europe,³⁴ the amount of access available in other international markets is low. Debt issues in US markets are, however, subject to the scrutiny of the SEC, which imposes a high level of financial accountability. Thus the focus should be on the further development of sovereign or quasi-government issues, which could enter these markets with their sovereign status, adding to investor appeal, and on credit rating—a necessary requirement for public issues in the US. However, there are clear benefits to nonsovereign issuers in domestic markets, largely in the form of better pricing of existing issues, should benchmark yield curves of government securities be available in international markets. Thus governments or their instrumentalities should pursue a strategy of continually issuing bonds in international markets across a range of maturities to maintain the infrastructure that has been previously established. Note that given the cost of establishing domestic bond market infrastructure it may be prudent for some developing economies to focus their efforts on tapping international markets (such as the yankee market). Such issuers should begin to build a market for their bonds by providing bonds that are attractive to international investors in both maturity and pricing.

B. Major Issues to be Addressed

Enabling a Regulatory Environment. Policymakers in crisis economies must achieve a low net regulatory burden by achieving economies of scale and scope, ongoing deregulation, and the avoidance of taxes on external transactions. Doing so will facilitate financial market development across a broad spectrum of financial products (including derivatives) and services. This involves developing unified strategies that provide measurable outcomes for currency stability and maintaining the pace of financial reform. A key feature is the removal of any withholding taxes on loans to nonresidents. Transaction-based economies of scale and scope may be achieved in selected areas, such as through a unilateral approach to settlement procedures.

Providing further access to foreign intermediaries in retail investment and banking markets will both further encourage the development of infrastructure, and enhance the demand in domestic markets for investment products. Another advantage of greater foreign access is the potential transfer of technology to other domestic financial participants, though expected outcomes should also be clearly defined and measured.

Corporate Governance, Transparency and Disclosure. Regulatory reform is necessary to strengthen the legal process for protection of foreign investors. Key areas of concern include the governance structures of corporations where founding families maintain managerial control, and the transparency and level of disclosure of financial statements. Policy in these areas has been articulated by a number of international studies by the BIS and the Institute of International Finance (IIF).

Benchmark Yield Curves. One cannot separate concerns over the lack of corporate and government benchmarks, as corporate pricing is based on a spread over the government bond of equivalent maturity. Therefore, governments in crisis economies also need to pursue strategies which establish benchmark yield curves in offshore markets if inadequate infrastructure and the lack of demand from domestic investors prevents them from immediately doing so in domestic markets. Examples such as the Philippines' global bond issues in 1998 and 1999 serve as a benchmark for other sovereign issues.

Institutional Investors and Mutual Funds. Risk management and regulatory supervision should also be benchmarked to international standards to inspire investor confidence, though regulation must be carefully applied so as not to impede innovation in financial markets. While strategies

that facilitate the private placement of securities may be pursued, this would defeat the purpose of providing liquid secondary market pricing. Thus private placements may be appropriate for illiquid corporate issues but not for benchmark sovereign issues.

Opportunities for private placements may arise through the recycling of bank loans through securitization processes (which are common in the US), but these securitized loans may need to be selectively sourced from the outstanding stock of loans to make them attractive to investors.

VII. Conclusions

Asian crisis countries, in the postcrisis period, should pursue the diversification of industrial financing methods to increase financial resources for development projects and accelerate financial sector development. The industrial financing in these countries has long been excessively bank-based, which has revealed several dangers, such as an extremely inflexible financing mechanism, a dominant portion of short-term financing, and vulnerability to external shocks. Bank disintermediation has already been emerging in terms of the extremely guarded lending policy of commercial banks in Asian developing countries. To diversify funding methods, bond markets, which have been neglected, should receive a policy priority. The negligence in the past was due to the cheaper financing of overseas borrowing, bank-dominated domestic financial systems, and agency problems arising from family-owned corporations.

This paper makes several policy suggestions to develop bond markets in the crisis countries, covering supply and demand-side policies and infrastructure development issues. These include (i) providing an enabling environment; (ii) reforming corporate governance; (iii) ensuring reliability in credit ratings; (iv) creating a benchmark yield curve; (v) strengthening the role of institutional investors and mutual funds; (vi) expanding private placement; (vii) providing a real-time delivery system; and (viii) strengthening the regulatory framework. The paper has also discussed strategies on how to tap international bond markets: the Asian countries need to provide an enabling regulatory environment, ensure corporate governance, establish international benchmark yield curves, and have risk management and regulatory standards at internationally acceptable levels.

However, all these requirements require a substantial period of time to be satisfactorily implemented. Therefore, the crisis countries should take balanced and consistent steps under a well designed mid- and long-term bond market development strategy. It is also advisable to increase bond issuance in international financial markets to ensure financing diversification and minimum funding costs.

Appendix

International Bank Financing by Asian Crisis Economies

1. Indonesia

- The level of international lending to Indonesia peaked in 1997 (US\$58 billion), but fell 25 percent to US\$43.8 billion by June 1999.
- Indonesia's share of total lending to Asia has been relatively constant (around 15 percent).
- The average maturity of bank lending has been rising, so that by June 1999, 49.6 percent of loans had a maturity of less than one year.
- Lending to the nonbank private sector has been consistent at around 70 percent of total loans, though the balance reflects a reallocation to the public sector and a withdrawal from lending to banks.
- While Japan stills remains a significant lender (31.9 percent in June 1999), European banks have increased their share of total loans from 30 percent in 1996 to 40 percent in 1999.

TABLE A.1
Summary of International Bank Lending to Indonesia
(1996–1999)

	Dec 1996	Dec 1999	June 1997	Dec 1998	June 1998
Total Asia (US\$ billion)	367.1	378.8	319.6	299.4	287.0
Total Indonesia (US\$ billion)	55.5	58.0	48.4	45.0	43.8
(TI/TA)%	15.1	15.3	15.1	15.0	15.3
Maturity					
Less than 1 and 1 year (%)	61.7	60.5	54.1	52.8	49.6
Over 1 year (%)	34.1	36.2	42.6	43.5	46.6
Sector					
Banks (%)	21.2	19.8	13.7	11.8	10.1
Public Sector (%)	12.5	11.8	15.7	14.8	21.0
NonBank Private Sector (%)	66.2	68.4	70.7	73.4	68.8
Nationality of Reporting Banks					
Euro-Area Banks	30.4				39.6
UK Banks	6.9				7.8
US banks	9.5				8.5
Japanese banks	39.7				31.9
Others	13.5				12.2

Note: Maturity and Sector percentage does not add up to 100%.

Sources: BIS "Consolidated International Banking Statistics for End-June 1999" November 1999 and BIS "The Maturity, Sectoral and Nationality Distribution of International Bank Lending: Second Half 1996," Basle July 1997.

2. Republic of Korea

- The level of international lending to the Republic of Korea peaked in 1996 (US\$100 billion) but fell 36.5 percent to US\$63.5 billion by June 1999.
- The Republic of Korea's share of total lending to Asia has fallen from 27.2 percent in 1996 to 22.1 percent in June 1999.
- The average maturity of bank lending has been rising that by June 1999 53.7 percent of loans had a maturity of less than one year.
- Lending to the bank sector has been reduced from 65.9 percent of total loans in 1996 to 57.4 percent in June 1999, although the balance reflects a reallocation to the public sector and a withdrawal from lending to the nonbank private sector.
- While Japan still remains a significant lender (23.7 percent in June 1999), European banks have increased their share of total loans from 28.8 percent in 1996 to 31.9 percent in 1999.

TABLE A.2
Summary of International Bank Lending to Republic of Korea
(1996–1999)

	December 1996	December 1997	June 1998	December 1998	June 1999
Total Asia (US\$ billion)	367.1	378.8	319.6	299.4	287.0
Total Republic of Korea (US\$ billion)	100.0	93.7	71.6	65.6	63.5
(TSK/TA)%	27.2	24.7	22.4	21.9	22.1
<i>Maturity</i>					
Less than 1 and 1 year (%)	67.5	62.8	45.1	45.3	53.7
Over 1 year (%)	20.0	23.4	39.4	38.2	28.7
<i>Sector</i>					
Banks (%)	65.9	59.3	56.6	57.0	57.4
Public Sector (%)	5.7	4.2	6.8	8.3	8.2
NonBank Private Sector (%)	28.3	36.4	36.6	34.4	33.9
<i>Nationality of Reporting Banks</i>					
Euro-Area Banks	28.8				31.9
UK Banks	5.6				7.3
US Banks	9.4				10.1
Japanese Banks	24.3				23.7
Other	31.9				27.0

Note: Maturity and Sector percentage does not add up to 100%.

Sources: BIS "Consolidated International Banking Statistics for End-June 1999" November 1999 and BIS "The Maturity, Sectoral and Nationality Distribution of International Bank Lending: Second Half 1996," Basle July 1997.

3. Malaysia

- The level of international lending to Malaysia peaked in 1997 (US\$27.3 billion) but fell 31.9 percent to US\$18.6 billion by June 1999.
- Malaysia's share of total lending to Asia has been reduced slightly from 7.2 percent in 1997 to 6.5 percent in June 1999.
- The average maturity of bank lending has been rising that by June 1999 42.3 percent of loans had a maturity of less than one year.
- Lending to the nonbank private sector has been increasing slightly from 61.7 percent of total loans in 1996 to 64.3 percent in June 1999, though the balance reflects a reallocation to the public sector and a withdrawal from lending to the bank sector.
- While Japan stills remains a significant lender (32.5 percent in June 1999), UK banks have increased their share of total loans from 6.4 percent in 1996 to 11.1 percent in 1999.

TABLE A.3
Summary of International Bank Lending to Malaysia
(1996–1999)

	December 1996	December 1997	June 1998	December 1998	June 1999
Total Asia (US\$ billion)	367.1	378.8	319.6	299.4	287.0
Total Malaysia (US\$ billion)	22.2	27.3	22.8	20.9	18.6
(TM/TA)%	6.1	7.2	7.1	7.0	6.5
<i>Maturity</i>					
Less than 1 and 1 year (%)	50.3	52.8	48.2	44.7	42.3
Over 1 year (%)	36.1	37.8	41.9	44.0	45.8
<i>Sector</i>					
Banks (%)	29.3	35.3	30.8	27.7	21.7
Public Sector (%)	9.0	6.4	6.6	8.8	13.8
NonBank Private Sector (%)	61.7	58.2	62.5	63.4	64.3
<i>Nationality of Reporting Banks</i>					
Euro-Area Banks	35.2				35.4
UK Banks	6.4				11.1
US Banks	10.5				5.7
Japanese Banks	36.9				32.5
Others	11.0				15.3

Note: Maturity and Sector percentage does not add up to 100%.

Sources: BIS "Consolidated International Banking Statistics for End-June 1999" November 1999 and BIS "The Maturity, Sectoral and Nationality Distribution of International Bank Lending: Second Half 1996," Basle July 1997.

4. Thailand

- The level of international lending to Thailand peaked in 1996 (US\$70.2 billion) but fell 50.6 percent to US\$34.7 billion by June 1999.
- Thailand's share of total lending to Asia has been reduced from 19.1 percent in 1997 to 12 percent in June 1999.
- The average maturity of bank lending has been rising that by June 1999 54.9 percent of loans had a maturity of less than one year.
- Lending to the nonbank private sector has increased significantly from 59.6 percent of total loans in 1996 to 74.4 percent in June 1999, though the balance also reflects a reallocation to the public sector and a withdrawal from lending to the bank sector.
- Japan remains a significant lender (52.7 percent in June 1999), though European banks have increased their share of total loans from 22.3 percent in 1996 to 30.9 percent in 1999.

TABLE A.4
Summary of International Bank Lending to Thailand
(1996–1999)

	December 1996	December 1997	June 1998	December 1998	June 1999
Total Asia (US\$ billion)	367.1	378.8	319.6	299.4	287.0
Total Thailand (US\$ billion)	70.2	58.5	46.4	41.2	34.7
(TT/TA)%	19.1	15.4	14.5	13.8	12.0
<i>Maturity</i>					
Less than 1 and 1 year (%)	65.1	65.8	59.3	58.3	54.9
Over 1 year (%)	30.2	30.7	36.5	37.1	39.4
<i>Sector</i>					
Banks (%)	36.9	29.9	26.1	22.0	19.4
Public Sector (%)	3.2	3.1	4.3	4.7	6.2
NonBank Private Sector (%)	59.6	66.9	69.6	73.2	74.4
<i>Nationality of Reporting Banks</i>					
Euro-Area Banks	22.3				30.9
UK Banks	4.5				4.3
US Banks	7.2				3.6
Japanese Banks	53.5				52.7
Others	12.5				8.5

Note: Maturity and Sector percentage does not add up to 100%.

Sources: BIS "Consolidated International Banking Statistics for End-June 1999" November 1999 and BIS "The Maturity, Sectoral and Nationality Distribution of International Bank Lending: Second Half 1996," Basle July 1997.

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