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Overview of Financial Market Structures in Asia - Cases of the Republic of Korea, Malaysia, Thailand and Indonesia

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**Overview of Financial Market Structures in
Asia
— Cases of the Republic of Korea, Malaysia,
Thailand and Indonesia —**

Sayuri Shirai

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PREFACE

The ADB Institute aims to explore the most appropriate development paradigms for Asia composed of well-balanced combinations of the roles of markets, institutions, and governments in the post-crisis period.

Under this broad research project on development paradigms, the ADB Institute Research Paper Series will contribute to disseminating the Institute's works as a building block of the project and will invite comments and questions.

I trust that this series will provoke constructive discussions among policymakers as well as researchers about where Asian economies should go from the last crisis and current recovery.

Masaru Yoshitomi
Dean
ADB Institute

ABSTRACT

Since the Asian financial crisis, it has been increasingly recognized that one of the major factors behind the crisis was the aggravation of currency and maturity mismatches of financial institutions, particularly those of the banking sector. The massive, short-term capital inflows that took place prior to the crisis were largely in the form of short-term borrowing from foreign banks, which were intermediated through domestic banks. Therefore, there are those who stress that Asian countries should place less emphasis on bank loans and should develop capital markets, particularly domestic corporate bond markets, as alternative and more important sources of financing.

While such views are understandable from an intuitive point of view, it is important to deepen our understanding of the current financial market structure and then examine whether a policy to develop domestic corporate bond markets can be implemented in the short term in Asian countries. In this context, it is also essential to recognize the extent to which these countries depend on the banking sector, and to carefully investigate the factors affecting the extent of such dependence.

This paper undertakes an overview of the financial structures in the Republic of Korea, Malaysia, Thailand, and Indonesia. It stresses that while the Asian countries have lowered their dependence on bank loans, especially since the crisis, the banking sector has remained dominant. Given the fact that alternative financing sources have been limited and unstable, it suggests that commercial banks will continue to be dominant financial institutions, and to act as major financiers for the economy, in the foreseeable future.

Moreover, this paper demonstrates that corporate bond markets in Asia are largely underdeveloped because issue sizes are small; maturity is concentrated on the short- to medium-term; and secondary markets are highly illiquid. The underdevelopment of corporate bond markets can be attributed to various factors, including underdeveloped government bond markets; tax and interest rate policies; stringent asset requirements imposed on institutional investors; a narrow investor base; and a narrow issuer base. The narrow investor base may be related to the low levels of income per capita and wealth accumulation, but it is also closely associated with the lack of adequate informational, legal, and judiciary infrastructure. These factors suggest that it may take time for Asian countries to develop viable corporate bond markets and that a policy to quickly develop domestic bond markets may not be feasible. This paper also emphasizes the importance of the role played by the banking sector as issuers, investors, guarantors, and underwriters in the corporate bond markets.

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Executive Summary

1. The Asian countries have lowered their dependence on bank loans, especially since the crisis, as a reflection of the transitory process of banking sector restructuring. Nevertheless, the banking sector has remained dominant. Given that alternative financing sources have been limited and unstable, this suggests that commercial banks will continue to be dominant financial institutions, acting as major financiers for the economy, in the foreseeable future.
2. Asian corporate bond markets are largely underdeveloped, since the size of issues is small; the maturity is concentrated on the short- to medium-term; the secondary markets are largely illiquid; and, corporate bonds are largely guaranteed or privately placed (this was especially true before the crisis).
3. The underdevelopment of corporate bond markets can be attributed to several factors: (1) underdeveloped government bond markets; (2) government interest and tax policies and minimum asset requirements; (3) a narrow issuer base; and (4) a narrow investor base.
4. First, the government bond market is underdeveloped because the size of issues is small and the issuing time is irregular; secondary markets are highly illiquid; and, the maturity is narrowly spread. The small issue size reflects sound fiscal policy, and consequently the lack of a need for the government to issue bonds for funding. The presence of diverse types of official bonds (leading to the small issue size per bond) and irregular issuing patterns also limited the development of government bond markets. These factors made it difficult for Asian countries to establish benchmark yield curves, which are necessary for pricing corporate bonds.
5. Second, a number of Asian countries have adopted low interest rates and transaction taxes, that have discouraged investors from transacting bonds in the secondary market. In some cases, institutional investors are subject to stringent minimum asset requirements, a fact which has also encouraged them to take a buy-and-hold strategy with respect to government bonds.
6. Third, there are few large, reputable non-financial firms that are able to issue bonds at reasonably low costs. This limits the issuer base and hence the development of corporate bond markets. This is true especially in Indonesia and Thailand.
7. Fourth, the investor base in Asia is narrow and limited. In many cases, individual investors are reluctant to diversify their asset portfolios and concentrate their funds in safe, liquid bank deposits. In addition, institutional investors are largely underdeveloped and concentrated. In Indonesia, the Republic of Korea, and Thailand, the major institutional investors are banks or other financial institutions. In Malaysia, in contrast, a single provident fund dominates the investor base.
8. A lack of large, diverse institutional investors may be associated with the low level of income per capita and wealth accumulation in some countries. More importantly, it is also attributable to the lack of adequate informational, legal, and judiciary infrastructure that ensures the confidence of public investors so that they are willing to make investment choices on their own and bear the risk of their investment. Such an infrastructure would protect public investors by promoting the availability to them of credible information about issuing firms; assuring them of debt repayments; penalizing accountants, auditors, and investment banks for disseminating false information; and, prohibiting insider trading and market manipulations.

9. Given the limited number of investors and issuers and inadequate informational, legal, and judiciary infrastructure in Asia, banks complement the narrow investor and issuer bases, thanks to their already dominant positions in financial markets, their reputations, and their informational advantages. Since banks already have inside information about borrowers, they can utilize the information when they underwrite (or guarantee) securities, and thus their underwriting costs can be lower than independent investment banks. This suggests that the role of the banking sector should not be dismissed when policy makers consider a concrete policy package to foster the development of domestic bond markets.

Overview of Financial Market Structures in Asia

Overview

Appendix I. Case of the Republic of Korea

Appendix I

Appendix II. Case of Malaysia

Appendix II

Appendix III. Case of Thailand

Appendix III

Appendix IV. Case of Indonesia

Appendix IV

Overview of Financial Market Structures in Asia
— Cases of the Republic of Korea, Malaysia, Thailand and Indonesia —

Sayuri Shirai¹

1. Introduction

Increasing recognition has been given to the fact that one of the major factors behind the Asian financial crisis was the aggravation of currency and maturity mismatches of financial institutions, particularly those of the financial sector. The massive, short-term capital inflows that took place prior to the crisis were largely in the form of short-term borrowing from foreign banks, intermediated through domestic banks (Asian Policy Forum and Asian Development Bank Institute [2000], Yoshitomi and Shirai [2000], Yoshitomi and Ohno [1999]). Therefore, after the crisis, a strong and increasingly prevalent view has emerged among international financial organizations, policy makers, academicians and so on, that the Asian financial crisis was caused by the heavy dependence of firms on banks for investments, since these banks did not function as properly as those operating in some advanced countries. Such views conclude that Asian countries should place less emphasis on bank loans and should develop capital markets, particularly domestic corporate bond markets, as alternative sources of financing.

While the above views are understandable from an intuitive point of view, it is important to deepen our understanding of the current financial market structure and then examine whether a policy to develop domestic corporate bond markets could be implemented in the short term in Asian countries. In this context, it is also essential to recognize the extent to which these countries depend on the banking sector, and carefully investigate factors affecting the extent of such dependence. Yoshitomi and Shirai (2001) and Shirai (2001) have conceptualized that the choice between a bank-dominated financial structure where banks provide traditional banking services (such as accepting deposits, providing loans, and managing settlement accounts), and a full-fledged capital market-based financial structure, where a large number of firms have direct access to corporate bond markets in addition to bank loans and where there are numerous, diversified investors that are willing to diversify their asset portfolios, depends largely on the three factors. They are (1) measures to cope with the problems of information asymmetry associated with extending credit to

¹ This paper benefited from many insightful and useful comments received at the Third Brain-storming Seminar of the Asian Policy Forum (APF) on "How To Design a Financial Market Structure in Post-Crisis Asia," Japan, 26 January 2001; the Fourth Brain-storming Seminar of the APF on "How To Design a Financial Market Structure in Post-Crisis Asia," Japan, 26 March 2001; a seminar of the Asian Development Bank Annual Meeting, Hawaii, 8 May 2001; the ADBI/FIMA Symposium on "Designing a Financial Market Structure in Post-Crisis Asia," Hawaii, 10 May, 2001; the Third Asia Development Forum, Thailand, June 11-14, 2001; and, the SEACEN-ADBI Seminar on "Development of Capital Markets," Malaysia, 16-20 July, 2001. I am grateful to Dr. Masaru Yoshitomi, Prof. Mahani Zainal Abidin, Ms. Norashikin Abdul Hamid, Ms. Sureeporn Jantarapavech, Dr. Akhamad Rizal Shidiq, Dr. Inseok Shin, Mr. Urip Suprodjo, and other APF members for their insightful comments. I would also like to acknowledge Mr. Prithipal Rajasekaran for his excellent research assistance.

borrowers, (2) stages of economic development and corporate formation, and (3) features of the informational, legal, and judiciary infrastructure.

First, under the banking system, banks cope with the problems of information asymmetry by obtaining inside information about their clients through conducting repeated transactions and forming long-term relationships, and thereby monitoring their performance. Under the corporate bond market, these problems are managed by standardizing information about issuers, strengthening the protection of public investors, and promoting secondary markets.

Second, the stages of economic development and corporate formation affect the size of issuer and investor bases. In developing countries and in the early stage of corporate formation, there are only a few large, reputable firms whose information is openly available and transferable in the market, and as a result these firms become creditworthy potential bond issuers. Developing countries are often characterized by low levels of income and wealth accumulation, which explains the small scale of accumulated funds in the hands of insurance companies and pension funds that are potentially important institutional investors. In addition, households overwhelmingly hold bank deposits over other forms of financial assets, such as life insurance, equity, fixed income, and trust.

Third, the main objective of the banking regulatory system is to limit excessive risk-taking by banks and to protect depositors, thereby containing systemic banking crises. To achieve this, regulators need to establish enforceable banking laws that define the scope and types of businesses permitted to commercial banks and set entry criteria, impose prudential regulations, and adopt a deposit insurance system. In contrast, the main objective of the securities regulatory system is to ensure public confidence in the capital market by promoting the availability of credible information about issuing firms to public investors and protecting them against false practices and market manipulation.

Taking into account the above factors, this paper undertakes an overview of the financial market structures in the selected crisis-affected countries: the Republic of Korea (henceforth, Korea), Malaysia, Thailand, and Indonesia (by order of income per capita). As reference, data on the United States, Singapore, Philippines, India, and the People's Republic of China (PRC) are used when they are available and their comparison with these four countries is meaningful. The paper consists of six sections, which are essentially based on the detailed case studies of the four countries (listed in the appendices).

Section 2 examines the question of whether the four Asian economies can be characterized as bank-dominated economies and whether this pattern has changed since the Asian financial crisis. Section 3 focuses on corporate bond markets in Asia and examines whether they are viable given their growing importance especially after the crisis. Section 4 focuses on the role of the banking sector in corporate bond markets. This section stresses that banks are not only major investors in corporate bonds but also issuers, underwriters and guarantors of bonds in Asian countries. Section 5 examines the factors affecting the underdeveloped corporate bond markets. Section 6 contains concluding remarks.

Finally, it should be stressed that this paper was prepared in collaboration with the members of the Asian Policy Forum (APF), where ADB Institute serves as APF's Secretariat, to supplement the APF Report on "Designing a New Balanced Financial Market Structure in Post-Crisis Asia-How to Foster the Development of Corporate Bond Markets through Strengthening the Banking Industry." Major contributors to this paper were Dr. Inseok Shin of Korea Development Institute (Korean country report listed in Appendix I); Prof. Mahani Zainal Abidin of the University of Malaysia, Ms. Norashikin Abdul Hamid of Rating Agency Malaysia Berhad, and Ms. Lam May Yin of the Securities Commission of Malaysia (Malaysian country report listed in Appendix II); Ms. Sureporn Jantarapavech of the Securities and Exchange Commission of Thailand (Thai country report listed in Appendix III); and, Dr. Akhamad Rizal Shidiq of the University of Indonesia and Mr. Urip Suprodjo of Credit Rating Indonesia (Indonesia country report listed in Appendix IV). Also, Prof. Tan Khee Giap of Nanyang Technological University, Dr. Mario B. Lamberte of Philippine Institute of Development Studies, Dr. Xianfeng Ma of the China Securities Regulatory Commission, and Dr. Ananthkrishnan Prasad of the Reserve Bank of India kindly provided data on Singapore, the Philippines, the PRC, and India, respectively.

2. Dependence on the Banking Sector

Asian economies are generally perceived as being heavily dependent on bank loans. In order to confirm whether this perception is correct, the following two indicators were adopted: (1) bank loans as share of Gross Domestic Product (GDP) and (2) bank loans as share of total external finance (proxied as the aggregate of outstanding bank loans, outstanding corporate bond issued, and equity market capitalization).²

2.1. The Size of the Banking Sector in Terms of GDP

Looking at the first indicator, the banking sector size in the Asian countries (except India) were large during 1990-1999 on average, as compared with that of the United States (Chart 1a). While the size of the banking sector accounted for only 30% in the United States, it was much larger in the seven Asian countries—particularly, Malaysia, PRC, Singapore, and Thailand.

With respect to the five Asian countries that were severely affected by the Asian crisis, the size of the banking sector increased steadily in Indonesia Malaysia, the Philippines, and Thailand before the eruption of the crisis (Chart 1b). The increase in the banking sector was most pronounced in Malaysia and Thailand—from about 60% each in 1990 to 90% and 120%, respectively, in 1997. After the crisis (particularly in 1999), however, the size of the banking sector has declined in the crisis-affected countries except Korea. The decline has been particularly striking—in the range of 10-20 percentage points—in Indonesia,

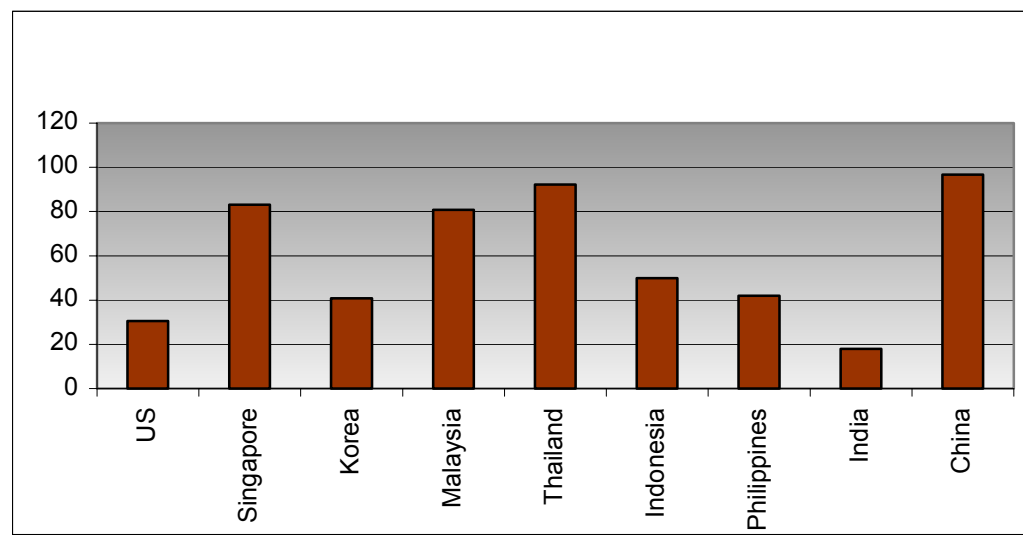
² A good indicator is the ratio of newly raised bank loans by non-financial firms to new investment. This indicator, however, was not used here, since the flow of funds data or commonly-defined data were not available for all countries under examination. The flow-of-funds data are available in Korea and the estimates are given in Thailand (see Appendix I and Appendix III).

Philippines, and Thailand. This reflects a decline in bank loans caused by the transitory banking sector restructuring process. While the scale of the decline appears large, it was offset by the increase that took place earlier in 1997-1998 in Thailand, Malaysia, and Philippines. Thus, the level of bank loans did not decline to below the pre-crisis level in these countries.

However, Korea has shown a somewhat different pattern, with the size of the banking sector remaining nearly constant before the crisis and increasing moderately in the post-crisis period. However, the flow-of-funds data shows that non-financial firms have reduced bank loans (together with nonbank financial institutions) from 36% of total external financing in 1996 to 32% in 1999 (stock data) and from 28% in 1996 to 4% in 1999 (flow data), suggesting a pattern similar to Indonesia, Malaysia, Philippines, and Thailand (Appendix I).

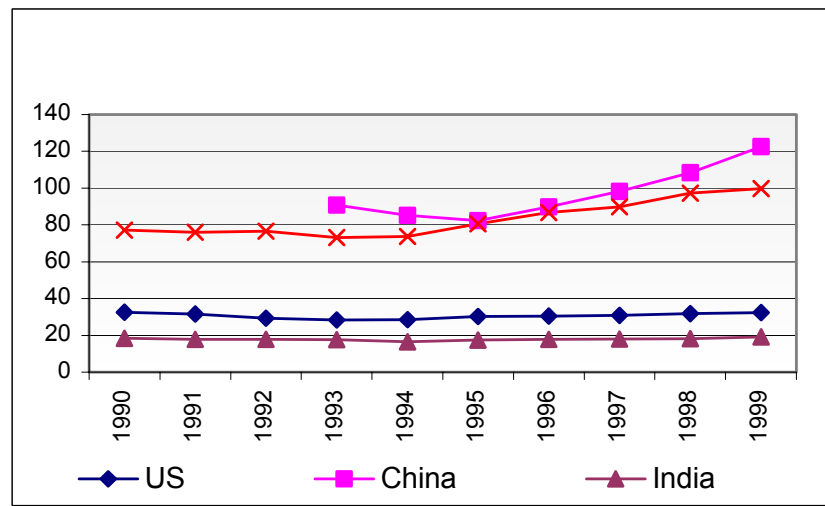
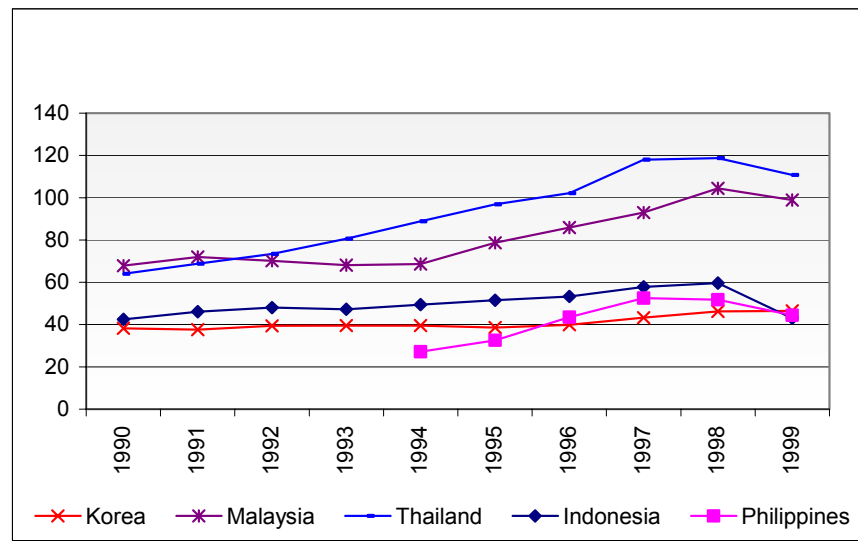
As for the United States and other Asian countries, their banking sectors appear not to have been affected by the crisis. The size of the banking sector showed an increasing trend in the PRC and Singapore throughout 1990-1999, whereas it has remained more or less constant in the United States and India.

Chart 1a: Outstanding Bank Loans for Nine Countries (Percent of GDP): 1990–1999 Average



Source: DRI Asia Database (DRIASIA), CEIC Data Co. Ltd.; International Financial Statistics (IFS), International Monetary Fund (IMF), (April 2001).

**Chart 1b: Outstanding Bank Loans for Nine Countries (Percent of GDP): 1990 –1999
Time Series**

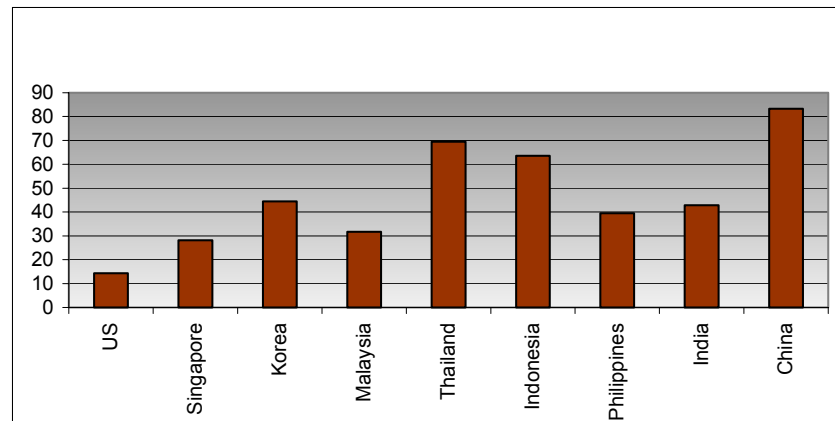


Source: DRIASIA; IFS, IMF.

2.2. The Size of the Banking Sector in Terms of Total External Finance

To examine the relative importance of bank loans as sources of external finance, this paper has introduced a second indicator, namely bank loans as a share of total external finance. During 1990-1999, bank loans were the most important external financial sources in the eight Asian countries. The share of outstanding bank loans accounted for between 30% and 80% of total external finance in these Asian countries during 1990-1999 on average—far above the level of the United States, where it accounted for only 15 percent of total external finance (Chart 1c).

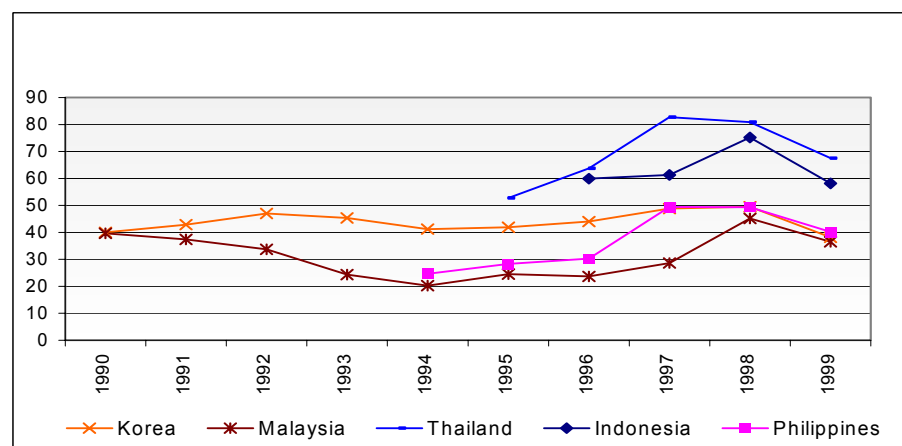
Chart 1c: Outstanding Bank Loans for Nine Countries (Percent of Total External Finance): 1990–1999 Average

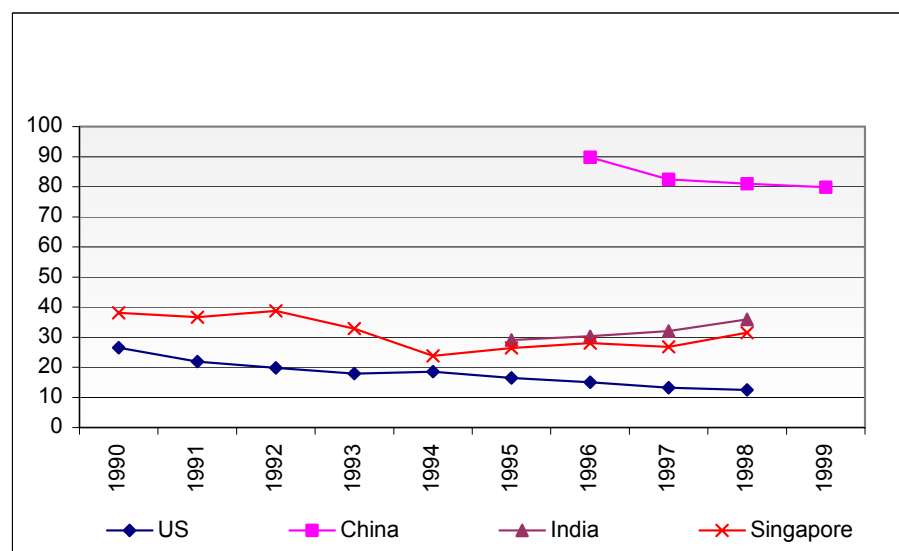


Note: External finance is defined as the sum of outstanding bank loans, outstanding corporate bonds issued and equity market capitalization.
Source: DRIASIA; IFS, IMF.

With respect to the crisis-affected countries, all have shown more or less similar patterns to those based on the first indicator. The shares of outstanding bank loans in total external finance increased steadily before the crisis, but have declined in the post-crisis period, particularly in 1999 (Chart 1d). This suggests that finance from capital markets has become important in relative terms in the post-crisis period, owing to the difficulties experienced in the banking sector. However, the relative size of bank loans did not decline below the pre-crisis level, supporting the view that banks continue to be dominant financial institutions.

Chart 1d: Outstanding Bank Loans for Nine Countries (Percent of Total External Finance): 1990–1999 Time Series





Source: DRIASIA; IFS, IMF.

By contrast, the share of bank loans in the United States has consistently declined over the period of 1990-1999, reflecting the fact that securities increasingly substituted for bank loans. This suggests that the financial market structure in the United States differs from those of Asian countries and can be characterized as a full-fledged capital market-based financial one. The share of bank loans has increased moderately in India and Singapore in recent years. In the PRC, a moderate decline was observed, but the share of bank loans has remained dominant, at about 80% of total external finance.

3. The Development of the Corporate Bond Market

The crisis-affected Asian countries experienced a cut in bank loans in 1999, leaving firms no choice but to depend on alternative external financing sources. In spite of the growing trend observed in some countries, corporate bond markets have been largely underdeveloped because of the small size of issues, relatively short maturities, and lack of liquidity in the secondary markets.

3.1. Issue Size of Corporate Bonds

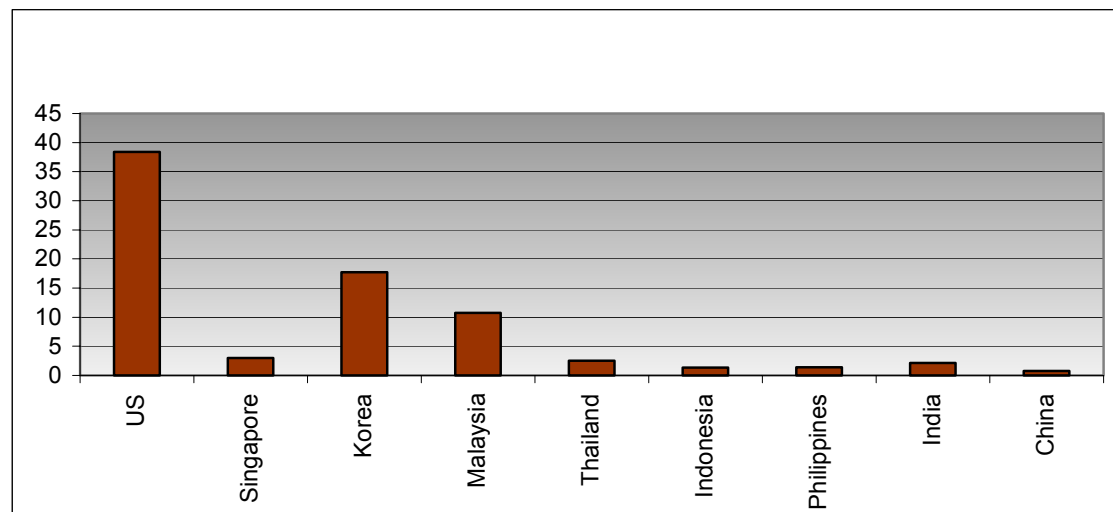
The Size of the Corporate Bond Market in Terms of GDP

As with the size of the banking sector, two indicators are adopted to estimate the size of the corporate bond market: (1) the ratio of outstanding corporate bonds issued to GDP and (2) the ratio of outstanding corporate bonds issued to the sum of external finance defined above.

In a sharp contrast to the United States, the size of the corporate bond markets (based on the first indicator) was small during 1990-1999, on average, in the eight Asian countries. While the shares were still relatively small, the corporate bond markets developed moderately in Korea and, to a

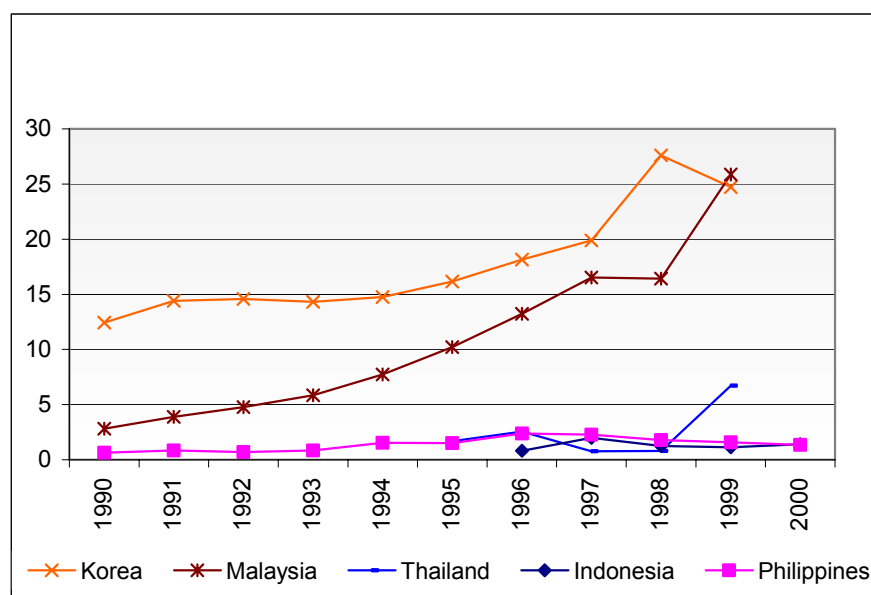
lesser extent, Malaysia with the size accounting for 18% and 10%, respectively (Chart 2a). Since the crisis, the issuance of corporate bonds has risen in Korea, Malaysia and Thailand, albeit on a small scale (Chart 2b). This is because the financial difficulties caused by the Asian financial crisis and the recent enforcement of capital adequacy requirements have made it more and more difficult for commercial banks to continue or increase lending to firms; consequently, firms—particularly, large reputable firms—have turned to bond issuance.

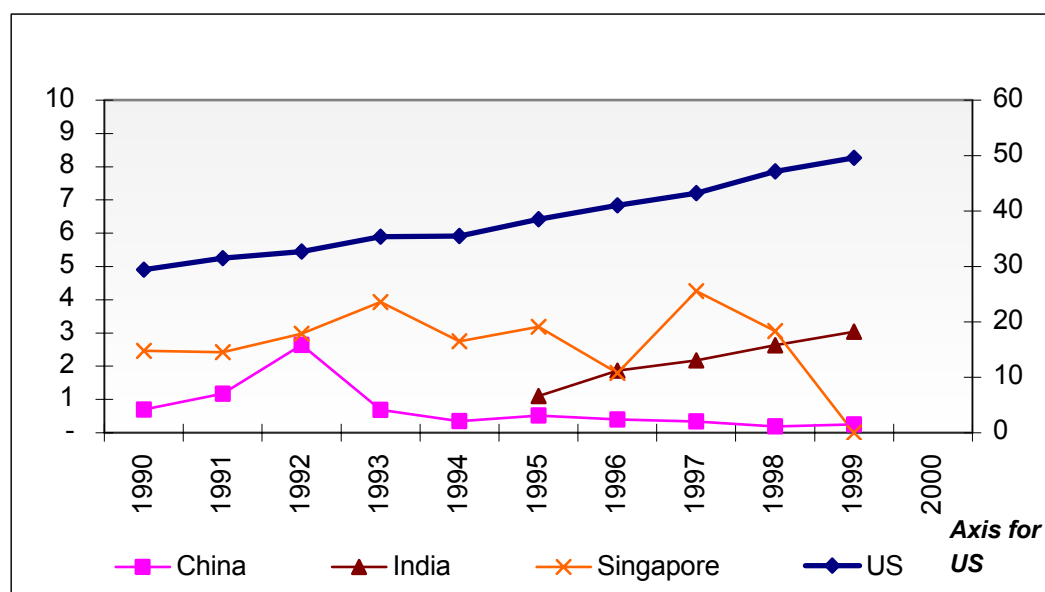
Chart 2a: Outstanding Corporate Bond Issued for Nine Countries (Percent of GDP): 1990–1999 Average



Source: DRIASIA; IFS, IMF; Flow of Funds Accounts of the United States.

Chart 2b: Outstanding Corporate Bond Issued for Nine Countries (Percent of GDP): 1990–1999 Time Series





Source: DRIASIA; IFS, IMF; Flow of Funds Accounts of the United States.

Korea has been the front runner in the Asian corporate bond market owing to the fact that issuing corporate bonds began in a much earlier periods than other Asian countries. In Korea, (convertible) corporate bonds were issued first by Ssanyong Cement in 1963 and the issuance of corporate bonds increased rapidly in the 1970s. The ratio of outstanding corporate bonds issued to GDP rose from 20% in 1997 to 28% in 1998, reflecting the temporary boom in the corporate bond market. The Investment Trust Companies (ITCs) grew sharply from 1998 to the middle of 1999, and became major investors in corporate bonds. Their purchases of corporate bonds accounted for almost 80% of the total financing of non-financial firms during this period and thus compensated for the contraction in other financing channels. However, the corporate bond market collapsed in the middle of 1999 due to the bankruptcy of Daewoo—the third largest conglomerate in the county—triggering a collapse of ITCs and a subsequent substantial loss in investor confidence.

A new wave of flight-to-quality phenomenon has emerged in the post-boom Korean bond market. Demand for higher quality corporate bonds (as well as government securities) rose sharply, and their interest rates declined accordingly. In contrast, firms with credit ratings of BBB or below faced difficulty in issuing corporate bonds, as investors became more sensitive to credit risk (Oh and Rhee, 2001). Furthermore, those bonds (mostly three-year bonds) that were issued and largely non-guaranteed in 1998, during the bond boom period, were maturing in 2001, and the issuers have found it very difficult to rollover their bonds. As a result, the bonds were transformed into non-performing debt, and at the same time credit crunch problems were exacerbated—mainly because the difficulties faced by the ITCs gave rise to systemic financial sector problems.

In response to the serious credit crunch, the Korean government has intervened in the corporate bond markets since August 2000 by creating a primary “collateralized bond obligation” (CBO) program—securitizing corporate bonds held by ITCs through bundling maturing bonds, providing a partial guarantee and selling securities backed by those bonds to

investors (Oh and Rhee [2001] and OECD [2001]). The government enacted the Asset Securitization Act in October 2000 for the purpose of helping the Korean Asset Management Corporation—an equivalent of the Resolution Trust Corporation in the United States—liquidate non-performing loans held by troubled banks. Under this regulatory framework, ITCs have heavily securitized non-performing bonds to meet their redemption requirements, which increased rapidly after the Daewoo crisis. This has given rise to a sharp increase in CBOs, which accounted for more than 60% of the total corporate bond issuance in 2000. CBOs are treated as corporate bonds on the ground that they are issued through “special-purpose vehicles” (SPVs). The guarantee is provided by the Korea Credit Guarantee Fund (KCGF), which charges a 1.5% fee for this service and screens the companies wishing to participate in this program and requires companies to have a bond rating of at least BB. The amount of bonds from an individual company is between 5% and 10% of the total CBOs in order to pool non-performing bonds and lower risk. Through these processes, most of these bonds, and particularly senior bonds, are rated at above A. By the end of 2000, 17 different consortiums had put together CBOs, which were then sold by securities companies.

Junior bonds cannot receive principal payments until the entire principal of the senior bonds has been paid off. The Korean government purchased these junior bonds through government agencies, mostly the Small and Medium Industry Promotion Corporation. In addition, the government converted junior bonds to senior bonds by providing credit enhancement with the help of the KCGF and Korea Technology Credit Guarantee Fund.³

As another way to solve the credit crunch, the Korean government established a “collateralized loan obligations (CLOs)” scheme in December 2000, through which bank loans could be pooled, securitized, and thus liquidated. While the main objective of both CBOs and CLOs is to mitigate credit crunch problems by containing systemic financial problems, the increase in the issuance of these bonds has potential of fostering the development of the corporate bond market through the increased issuance of bonds during the transition period.⁴ In addition, the government introduced “An Emergency Measure for Script Underwriting of Corporate Bonds” in April 2001. Under this measure, the government has required the Korean Development Bank (KDB) to purchase one-year corporate bonds issued by troubled companies facing difficulty in rolling over their maturing debt. The candidate companies—mostly Hyundai affiliates—are selected by KDB and are expected to issue one-year bonds whose face value amounts to 8% of the debt due. KDB then pools these bonds and securitizes them with credit support provided by the Credit

³ Furthermore, the Korean government established the CBO funds in order to raise money and thereby increase demand for CBOs. These funds are required to invest more than 50% in junior bonds. The government compensated for the credit risk involved by providing tax relief on interest income or privileges to get allocations of over-subscribed initial public offerings.

⁴ However, the creation of CBOs and the quick underwriting program of the KDB—although being implemented to overcome market weakness, such as the bunching of maturities in a single year and the absence of a market for bonds with credit ratings below investment grade—has resulted in helping ITCs increase their liquidity and improve returns on their investments. This may generate moral hazard problems among ITCs and their investors (i.e. ultimate borrowers), and delay the restructuring process of the corporate sector. ITCs may increase risk-taking lending activities without worrying about liquidity problems when the invested assets become non-performing, and financiers of ITCs may have increased incentives to invest in ITCs without worrying about the risk involved. Thus, this approach should be regarded as a temporary solution.

Guarantee Fund. About 70% of the pool constitutes a senior tranche and thus can be sold to investors, while the remaining 30% is assumed by creditor banks of candidate firms and KDB itself (Oh and Rhee, 2001).

The corporate bond (called private debt securities (PDS) market in Malaysia was almost nonexistent until the middle of the 1980s, when the government introduced a privatization policy with the aim of downsizing government operations and enhancing the role of the private sector. The privatization policy increased the need of the private sector to obtain long-term financing, contributing to a rapid increase in the issuance of corporate bonds between the late 1980s and early 1990s. The size of the corporate bond market rose rapidly in the 1990s, from 3% of GDP in 1990 to 25% in 1999, thanks to the government's efforts to develop the market. These efforts included the establishment of Cagamas Berhad and the Rating Agency Malaysia Berhad. After the crisis, the corporate bond market played an important role in financing the restructuring process of the corporate and banking sectors. Most PDS are issued through a bought deal or private placements to avoid the lengthy approval process and high issuance costs (including issuing a prospectus) that issuers have to bear when issuing through the exchange.

In Thailand, the corporate bond market was almost nonexistent before 1992, as the corporate law allowed only public and exchange-listed companies to issue bonds. In 1992, the government enacted the Securities and Exchange Act, which allowed limited companies to issue bonds. Since then, corporate bonds have become more common, although the size has been much smaller than bank loans. The size of the corporate bond market rose rapidly in 1999, because blue-chip companies increased their resources devoted to bond financing. Nevertheless, the relative size has remained small.

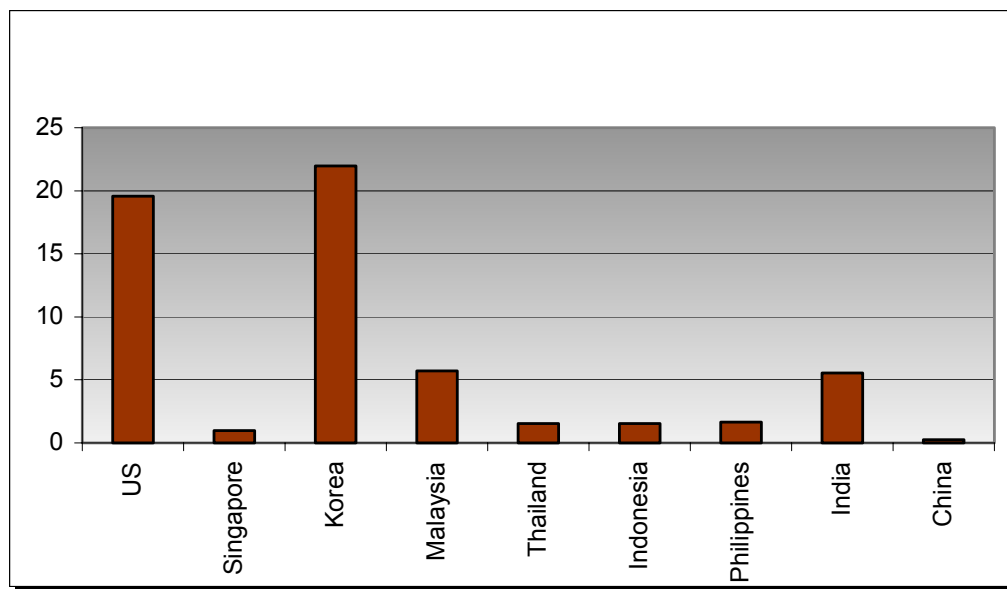
Before the crisis, about 45% to 70% of Thai corporate bonds were issued abroad—in sharp contrast from Korea, Malaysia, and Indonesia. These overseas issues were denominated largely in US dollars or yen. Following the crisis, the issuance of corporate bonds dropped rapidly to B41 billion in 1997 and B36 billion in 1998, from B133 billion in 1996. However, it increased substantially in 1999, to B316 billion. Since the crisis, nearly all corporate bonds have been issued domestically in the absence of foreign investors.

Compared with Korea, Malaysia, and Thailand, the size of the corporate bond market in Indonesia has been very small, remaining at below 5% of GDP throughout 1990-1999. The corporate bond market barely existed before 1987, owing to the strict regulations on issuance, such as a minimum 10% net income-equity requirement imposed on the previous year financial performance and high registration fees. Between 1987 and 1990, the government implemented various reforms in the financial and capital markets, including an opening to foreign investors, a relaxation of the net income-equity requirement, a reduction of registration fees, the establishment of an over-the-counter market, the approval of finance companies, a strengthening of disclosure requirements, enhancing investor protection, etc. Despite these measures, the corporate bond market remains underdeveloped.

The Size of the Corporate Bond Market in Terms of Total External Finance

The second indicator shows that the relative size of corporate bond finance is larger in Korea than in the United States and Malaysia (Chart 2c). Chart 1c and Chart 2c suggest that equity market capitalization accounts for about 65% of total external finance each in the United States and Malaysia, reflecting the strong stock market booms in both countries during the 1990s. In Malaysia, this partly reflects issuers' preference for equity finance over bond finance because of the unlimited life of the former. Chart 2d shows that the size of the corporate bond market rose by just 7 percentage points in Malaysia, while it actually dropped by about 5 percentage points in the United States.

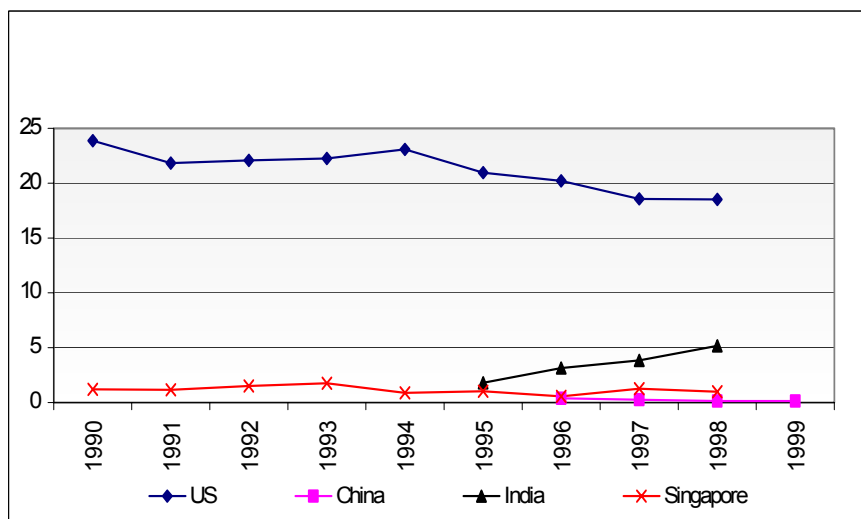
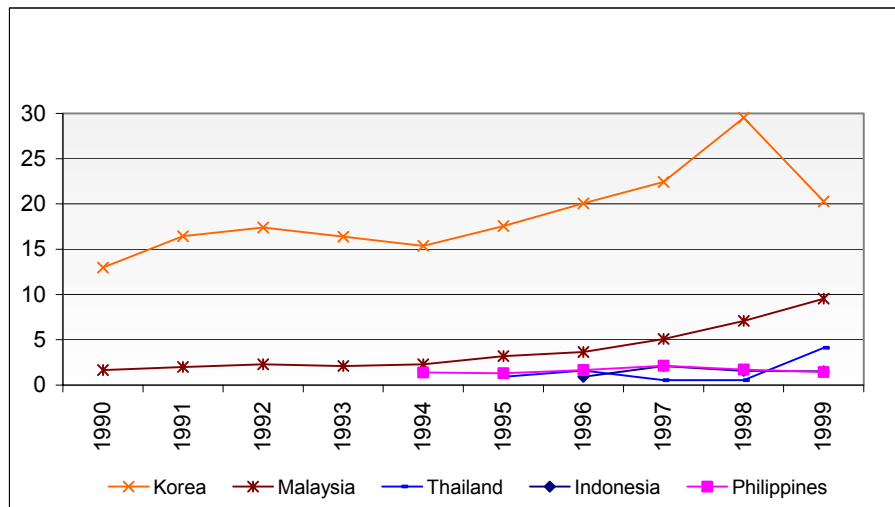
Chart 2c: Outstanding Corporate Bond Issued for Nine Countries (Percent of Total External Finance): 1990–1999 Average



Note: External finance is defined as the sum of outstanding bank loans, outstanding corporate bonds issued and equity market capitalization.

Source: DRIASIA; IFS, IMF; Flow of Funds Accounts of the United States.

Chart 2d: Outstanding Corporate Bond Issued for Nine Countries (Percent of Total External Finance): 1990–1999 Time Series



Source: DRIASIA; IFS, IMF; Flow of Funds Accounts of the United States.

3.2. The Maturity Structure of Corporate Bonds

In Asia, corporate bonds have largely been concentrated on short- to medium-term maturities, and this tendency has been enhanced in the post-crisis period by the loss of confidence in the viability of firms and the lack of adequate informational, legal, and judiciary infrastructures. This also reflects investors' preferences, arising from a lack of experience and consequent weak confidence in the corporate bond market. In addition, when commercial banks are major investors in bonds, they tend to hold short-term bonds to mitigate maturity mismatches given that their liabilities are comprised largely of short-term deposits. Also, issuing firms may prefer short-term bonds because of their relatively lower interest rates.

In Korea, about 90% of corporate bonds were of three-year maturity throughout 1995-1999 (Table 1). The illiquid secondary markets resulting from the buy-and-hold strategy by ITCs induced investors to purchase and guarantors to guarantee bonds with the shortest legally-allowed maturity, which was three years.

Table 1: Maturity Structure of Corporate Bonds (Weighted Average)

	Before Crisis	After Crisis
Korea	Less than 4 years	Less than 4 years
Malaysia	4-5 years	6-10 years
Thailand	More than 10 years	Less than 7 years
Indonesia	-	4-5 years

Source: Appendices.

In Malaysia, the maturity of PDS varies from two to three years to above 15 years. In the 1995-1996 period, the most common maturity was four to five years, accounting for about 55% of total issues. Since 1997, the share of PDS with maturities of six to 10 years increased from 46% in 1997 to 90% in 1999, but dropped to 24% in 2000.

In Thailand, the maturity of corporate bonds issued before the crisis was concentrated on five years and below and 10 years during 1995-1996, with these periods accounting for 38% and 49% of total corporate bond issued, respectively. The average maturity shortened after the crisis, as evidenced by the increase in the maturity of five years and below to about 60% during 1997-2000.

In Indonesia, corporate bond maturities were concentrated in four to five years in 1998-2000, accounting for 70% of total outstanding corporate bonds.⁵

3.3. Liquidity of Corporate Bond Markets

The trading of corporate bonds in secondary markets has remained modest in Asia throughout the period. This is because most investors tend to hold bonds until maturity, reflecting the minimum asset requirements, taxes, interest rate policy, etc. Also, when the major investors are banks, they tend to hold shorter-term corporate bonds in order to minimize maturity mismatches given that their liabilities consist largely of bank deposits.

In Korea, corporate bonds were not actively traded in the secondary markets in the past, because the prices of bonds were under government control. Until the early 1990s, the issuing rates of corporate bonds were determined by the government. In 1991, the government liberalized this regulation for corporate bonds with maturities longer than two years, and in 1993 for corporate bonds of all maturities and financial debentures. Even after 1993, however, the government has routinely intervened in the corporate bond market to

⁵ Data prior to the crisis are not available.

affect interest rates through quantity adjustment. Furthermore, the government exercised managing authority over institutional investors such as ITCs and banks, even though they are privately owned. The government has done this by requiring them to get approval with respect to the introduction of new products, pricing of products, opening of new branches, and appointment of board members.

Moreover, ITCs did not engage in trading bonds in order to meet fixed payments to ultimate investors. When investors demanded redemption, ITCs paid cash based on the book value and then transferred securities to their own accounts rather than selling them on the market. These practices lowered liquidity in the secondary corporate bond market, while protecting public investors in the ITCs from market risk. After the crisis, the turnover ratio rose rapidly, from 92% in 1997 to 205% in 1998-1999, reflecting the temporary bond market boom.

In Malaysia, the secondary market for PDS has been extremely illiquid and virtually non-existent. Many corporate bonds are bought and held to maturity by institutional investors, owing to a lack of market-making activities and a short supply. Following the crisis, the secondary market for PDS improved somewhat in 1999, reflecting lower interest rates and thus higher capital gains.

In Thailand, the trading value of corporate bonds was limited except in 1996 and 1997. Trading activities dropped rapidly in 1998 and 1999, but improved in 2000.

Similarly, in Indonesia, most investors hold corporate bonds until the maturity date. Furthermore, in December 2000 the government imposed a 0.03% tax on transactions of bonds traded at the exchange, which is likely to discourage trading activities even further in the secondary bond markets.

Table 2: Liquidity of Corporate Bond Markets

	Before Crisis	After Crisis
Korea	96.5%	147.8%
Malaysia	28.8%	30.5%
Thailand	103.5%	32.5%
Indonesia	-	41.7%

Source: Appendices.

4. The Role of the Banking Sector in the Corporate Bond Market

The banking sector is already playing a crucial role in the corporate bond market in Asia. Table 3 shows that banks are not only major issuers of corporate bonds but also investors, underwriters and guarantors. On the supply side, in Malaysia the issuer base is more diversified than the investor base in various industries. By contrast, in Korea issuers are concentrated in the manufacturing sector, reflecting the presence of relatively large and

medium manufacturing firms that are able to issue bonds on a sufficiently large scale at relatively low costs. In the case of Indonesia and Thailand, banks are the major issuers of corporate bonds (bank debentures). In Korea, banks were not major issuers, since only specialized banks were allowed to issue debentures until 1997.

The importance of banks as major investors can be seen in both the official and corporate bond markets—particularly in Korea, Thailand and Indonesia. Malaysia has a unique feature, where a single state-owned saving fund called the “Employees Provident Fund (EPF)” has been dominant in both the official and corporate bond markets, as the main investor. The presence of a single dominant institutional investor suggests that its impact on pricing and maturity structures, as well as the liquidity of those bonds, is non-negligible. The banking sector, however, is the second major investor after the EPF in both the Malaysian official and corporate bond markets. Finally, banks were important guarantors of corporate bonds in Malaysia and Korea before the crisis, and have been important underwriters in Thailand.

Table 3: Role of the Banking Sector in Asia

Banks as:	Thailand	Indonesia	Korea	Malaysia
Issuers	X	X	X	
Underwriters	X			X
Investors	X	X	X	X
Guarantors		X	X (before the crisis)	X (before the crisis)

Note: The shaded area refers to cases where the banking sector plays a crucial role.

Source: Prepared by the author.

Issuers of Corporate Bonds

Before the crisis, the size of the Korean corporate bond market, as measured by outstanding corporate bonds issued as a share of GDP, was relatively larger than those of Indonesia, Malaysia, and Thailand. The size of the corporate bond market expanded rapidly in the 1990s, after deregulations on corporate bonds issues induced firms to increase their financing from bond markets than from stock markets. The dominant issuers were manufacturing firms, which accounted for over 70% of all corporate bonds newly issued in 1995-1997 (Table 4a). On the other hand, the share of manufacturing firms declined to 56% of total corporate bonds newly issued during 1998-1999 on average (Table 4a). During the post-crisis bond market boom, large manufacturers such as Daewoo issued substantial numbers of bonds. However, the corporate bond market stagnated after the collapse of Daewoo in July 1999 and the subsequent plunge in investors’ confidence in the investment trust industry.

Table 4a: Korea, Issuers in Corporate Bonds (Percent of Newly Issued Corporate Bonds): 1995-1999

	1995-1996 Average	1997	1993-1999 Average
Manufacturing	71.5	72.4	56.3
Construction	13.1	10.5	7.5
Wholesale & Retail Trade	6.5	9.9	16.7
Financial Intermediation	5.9	2.1	7.0
Others	3.2	4.9	12.6
Total	100.0	100.0	100.0
Total (Billions of Won)	26,742	34,322	40,529

Note: Data refer to newly issued bonds, flow data.

Source: Appendix I.

With respect to bank debentures in Korea, commercial banks were prohibited from issuing bank debenture until 1997. Therefore, major bank debentures were issued by specialized state-owned banks—such as KDB, Korea Long-term Investment Bank, Korea Foreign Exchange Bank, and Korea Small and Medium Companies Bank. In the post-crisis period, KDB alone among specialized banks has actively issued bank debentures. In 1997, the government began to allow commercial banks to issue bonds and since then, the active issuer has been Korea Long Term Credit Bank (currently, Kookmin Bank).

In Malaysia, issuers are quite diverse compared to Korea. About 60% of issuers are publicly listed companies, and these firms are generally large. The rest are private limited companies, but most are affiliated companies or subsidiaries of publicly listed companies. Before the crisis, the major issuers were (1) the transportation, storage and communications sectors, (2) the construction sector, and (3) the manufacturing sectors, accounting for 25%, 21% and 18% of newly issued bonds, respectively (Table 4b). After the crisis, the amount of bonds issued by the manufacturing sector dropped sharply in terms of both value and share. In its place, the amount of bonds issued by the finance, insurance, real estate and business services sector and construction sector rose significantly.

Table 4b: Malaysia, Issuers in Corporate Bonds (Percent of Newly Issued Corporate Bonds): 1995-2000

Sectors	1995-1996 Average	1997	1998-2000 Average
Agriculture, Forestry and Fishing	0.9	1.5	0.1
Mining and Quarrying	-	-	-
Manufacturing	17.9	25.0	4.9
Construction	20.7	14.3	30.2
Electricity, Gas and Water	12.4	15.5	8.6
Transport, Storage and Communications	24.8	15.7	11.0
Finance, Insurance, Real Estate and Business Services	8.1	27.2	37.3
Government and Other Services	1.9	-	3.1
Wholesale, Retail Trade, Hotels and Restaurants	13.3	0.8	4.9
Total	100.0	100.0	100.0
Total (Millions of Ringgits)	10,792	14,428	15,419

Note: Data refer to new issues of listed and non-listed PDS, excluding Cagamas Bonds, flow data.

Source: Appendix II.

In Thailand, the banking sector is the major issuer of corporate bonds, accounting for 31% of total corporate bonds newly issued. The share of corporate bonds newly issued by the banking sector rose to about 50% on average in 1998-2000, reflecting a need to meet the capital adequacy requirement (Table 4c). Banks have increasingly issued subordinated bonds, since those bonds are recognized as Tier-2 capital.

Table 4c: Thailand, Issuers in Corporate Bonds (Percent of Newly Issued Corporate Bonds): 1995-2000

	1995-1996 Average	1997	1998-2000 Average
Banking	30.7	-	48.8
Building & Furnishing Materials	6.4	-	16.9
Commerce	20.0	11.0	1.3
Communication	15.0	15.9	9.0
Finance & Securities	5.0	-	3.1
Leasing	-	48.8	4.7
Others	22.9	24.3	16.2
Total	100.0	100.0	100.0
Total (Billions of Baht)	94	36	159

Note: Data refer to new corporate bond offerings, flow data.

Source: Appendix III.

In the case of Indonesia, the banking sector was the major issuer before the crisis, although the total issue size was very small (Table 4d). After the crisis, the share of banks dropped to about 20% of outstanding corporate bond issued although the value of issue size increased. In contrast, the issue size of the non-bank financial and infrastructure sectors rose rapidly. Some bonds were issued for the purpose of restructuring firms, and were exchanged with matured bonds.

Table 4d: Indonesia, Issuers in Corporate Bonds (Percent of Outstanding Corporate Bond Issued): 1996-2000

	1996	1997	1998-2000 Average
Property	26.5	28.6	25.0
Wood-based and Agro Industries	9.3	9.2	13.2
Banking	27.3	19.3	19.5
Consumer Goods	-	2.4	6.3
Infrastructure	-	2.2	10.8
Financial	4.7	12.4	11.1
Others	32.2	26.0	14.1
Total	100.0	100.0	100.0
Total (Billions of Rupiah)	4,285	12,540	14,132

Note: Data refer to outstanding corporate bonds listed at the stock exchange, stock data.

Source: Appendix IV.

Investors in Corporate Bonds

In the Korean corporate bond market, the financial sector was the largest investor group, accounting for about 90% of total corporate bonds newly issued before the crisis. This is still true after the crisis (Table 5a). While detailed data on the classification of investors were not available for the period prior to the crisis, it is known that the major investors were ITCs, banks, and Investment Trust Management Companies (ITMCs). The government established ITCs for the purpose of promoting capital markets. It founded two in 1970s, one in 1982, and then another five in 1989. Furthermore, it introduced 23 ITMCs during 1996-1997. ITCs conduct business through issuing/selling beneficiary certificates directly to customers and forming/investing trust funds in bonds, stocks, debentures, call loans, futures and so on. ITMCs also concentrate their business on securities investment, but they are not allowed to issue/sell beneficiary certificates. Before the crisis, ITCs, in particular, actively purchased corporate bonds, most of which were guaranteed by banks and securities firms, while offering deposit-type fixed payments to their investors. Thus, these financial institutions were de-facto banks since they performed the function of transforming fixed liabilities to long-term lending to private non-financial firms in the form of corporate bonds or equity.

Table 5a: Korea, Investors in Corporate Bonds (Percent of Newly Issued Corporate Bond): 1995-1999

	1995-1996 Average	1997	1998-1999 Average
Financial	91.6	89.7	94.3
Government	2.3	1.6	3.1
Corporate	4.4	5.6	1.6
Private	1.6	2.9	0.9
Foreign	-	0.2	0.1
Total	100.0	100.0	100.0
Total (Billions of Won)	1,001	1,505	2,441

Note: Data were obtained from the flow of funds accounts (flow) and include privately placed bonds, ABS and certain public bonds such as corporate bonds

Source: Appendix I.

From 1998 to the middle of 1999, the Korean corporate bond market experienced a temporary boom. In the process of the restructuring of the banking sector and the temporary loss of depositor confidence in the banking system, some depositors shifted their financial resources from bank deposits to investments in ITCs and ITMCs. Using their rapidly expanded funds, ITCs and ITMCs increasingly bought bonds mainly issued by manufacturers, such as Daewoo, which desperately needed funding for their operations in the absence of bank loans. The bond market boom also reflected the public perception that ITCs and ITMCs had never gone bankrupt in the past and, and that if they fell into financial distress, they would be rescued by the government. This corporate bond market boom ended when Daewoo went bankrupt in July 1999. The failure encouraged investors to withdraw money from their funds. The massive demand for fund cancellations by investors caused some ITCs and ITMCs to fall into serious financial problems. As a result of the restructuring of the financial sector, the number of ITCs declined from eight to three firms, and the number of ITMCs from 23 to 20 firms.

In Malaysia, the EPF, which is categorized under the item of "others" in Table 5b, has been the dominant investor in corporate bonds. As of November 2000 (the only month for which data are available), commercial banks were as a group the second largest investor, accounting for 17% of total corporate bond issues. Combining commercial banks, financial companies, merchant banks, and discount houses, the overall financial sector accounted for 25% of outstanding corporate bonds issued.

Table 5b: Malaysia, Investors in Corporate Bonds (Percent of Outstanding Corporate Bond Issued): November 2000¹

	Millions of RM	Percent
Commercial Banks	16,911	17.2
Financial Companies	2,337	2.4
Merchant Banks	3,389	3.5
Discount Houses	2,016	2.1
All Financial Institutions	24,652	25.1
Foreign Holders	1,426	1.5
Others²	72,115	73.4
Total	98,192	100.0

Note 1: Data refer to outstanding corporate bonds excluding short-term and medium-term papers, stock data.

Note 2: Others include major bond holders, such as the EPF and insurance companies.

Source: Appendix II.

In the case of Thailand, detailed data on classifications of investors are not available. Based on available information, foreign institutional investors—mainly consisting of foreign banks—were the major investors in corporate bonds that were newly issued in 1995. After the crisis, the share of foreign investors in newly issued bonds dropped sharply from about 65% in 1995 to 9% in 1999 as a result of massive capital outflows driven by the loss of foreign investors' confidence (Table 5c). In their place, the share of domestic investors—largely consisting of domestic commercial banks—rose sharply both in terms of share and value.

Table 5c: Thailand, Investors in Corporate Bonds (Percent of Newly Issued Corporate Bonds): 1995 and 1999¹

	1995	1999
Institutional Investors & High-Networth Investors	96.0	99.6
Domestic Investors	30.0	91.1
Foreign Investors²	65.0	8.5
Retail Investors	4.0	0.4
Domestic Investors	2.5	0.4
Foreign Investors	1.5	0.0
Total Value of New Issues	100.0	100.0
Total Value of New Issues (Millions of Baht)	66,066	315,858

Note 1: Data refer to new corporate bond offerings, flow data.

Note 2: Estimate by the author.

Source: Appendix III.

In the Indonesian corporate bond market, banks were the major investors, accounting for over 60% of total corporate bond issues (Table 5d). Other major investors were

insurance firms, pension funds, and mutual funds. However, their relative shares were very small considering that the size of the corporate bond market was less than 5% of GDP.

Table 5d: Indonesia, Investors in Corporate Bonds (Percent of Outstanding Corporate Bond Issued): 1995-2000

	1995-1996 Average	1997	1998-2000 Average
Insurance	10.1	7.7	8.4
Pension Funds	12.7	9.2	11.5
Mutual Funds	14.0	16.3	12.6
Banking, etc.	63.2	66.8	67.4
Total	100.0	100.0	100.0
Total (Billions of Rupiah)	4,285	12,540	14,132

Note: Data refer to outstanding corporate bonds listed at the stock exchange, stock data.

Source: Appendix IV.

Guarantors and Underwriters of Bonds

In the Korean corporate bond market, before the crisis most bonds were guaranteed by banks and non-bank financial institutions. The government introduced a guarantee system on corporate bonds in 1972 to ease financial constraints, initially authorizing the Korean Investment Corporation as the sole guarantor. It later allowed banks to also become guarantors, and about 50% of corporate bonds were guaranteed by banks in the 1980s. The relative importance of the banking sector as guarantors declined in the 1990s as non-bank financial institutions became major guarantors. However, most financial institutions ceased to guarantee corporate bonds after the crisis, in part because of the imposition in 1998 of a new regulation prohibiting securities firms from providing guarantees and in part because of the increased awareness of the risk involved in guarantee businesses (Table 6).

Table 6: Guarantors of Corporate Bonds

	Before Crisis	After Crisis
Korea	Guaranteed Funds, Surety Companies, Banks, Securities Companies, Merchant Banking Corporations	None
Malaysia	Government, Banking Institutions, Top Credit-rated Corporations	None
Thailand	None	Parent Companies, Related Companies
Indonesia	Banking Institutions, Affiliated Firms, Parent Firms	Banking Institutions, Affiliated Firms, Parent Firms

Source: Appendices.

In Malaysia, about 50% of bonds were guaranteed in 1995, and about 10% in 1996. The guarantees were used to enhance credit ratings so that firms were able to issue bonds given a requirement imposed by Bank Negara Malaysia that all corporate bonds be rated at least at a minimum investment grade (BBB or above). The major guarantors were banks, though some share was held by the government and top-rated firms. After the crisis, most corporate bonds ceased to be guaranteed, since banks have limited their guaranteeing businesses due to the banking sector restructuring process, and because the government removed the minimum investment grade requirement in July 2000.

In the case of Thailand, unlike Malaysia and Korea, the banking sector did not play a crucial role as guarantors before the crisis. This is partly because most bonds were asset-backed or secured, and were sold through private placement. After the crisis, some bonds have continued to be guaranteed, but mostly by parent companies or affiliated firms of the issuers. Instead, banks have become increasingly important underwriters in recent years. They have been permitted to underwrite bonds since 1993 (Table 7).

Table 7: Thailand, Top Underwriters of Corporate Bonds: 1995 and 2000

Year	Lead Underwriter	Value	No. of Issues	Percent
1995	Phatra Thanakit Public Co., Ltd.	3,595	2	30.9
	Thana One Finance & Securities Co., Ltd.	3,595	2	30.9
	First Bangkok City Finance Co., Ltd.	1,750	2	15.0
	Bangkok First Investment & Trust Public Co., Ltd.	500	1	4.3
	Siam Commercial Bank Plc.	500	1	4.3
	Finance and Securities as the Lead Underwriters	9,440		81.1
	Banks as the Lead Underwriters	500	1	4.3
2000	Siam Comercial Bank Plc.	11,955	5	21.1
	Citicorp Securities (Thailand) Ltd.	10,333	4	18.2
	Thai Military Bank Plc.	7,650	4	13.5
	ABN-AMRO Bank N.V.	6,500	3	11.4
	Jardine Fleming Thanakorn Securities Ltd.	3,650	6	6.4
	Finance and Securities as the Lead Underwriter	13,983		24.6
	Banks as the Lead Underwriters	26,105	3	46.0

Source: Appendix III.

Most of Indonesian corporate bonds were non-guaranteed before the crisis and this situation has not changed. In the post-crisis period, less than 5% of bonds have been guaranteed by banks, issuers' affiliated firms, or parent companies. Since all bonds are rated, guarantees are used to enhance credit ratings when the ratings given to the guarantors are higher. Banks are allowed to guarantee bonds, but are not allowed to directly engage in underwriting, dealing, and brokerage businesses. Those businesses, however, can be undertaken by bank subsidiaries.

5. Factors Affecting the Underdevelopment of Corporate Bond Markets

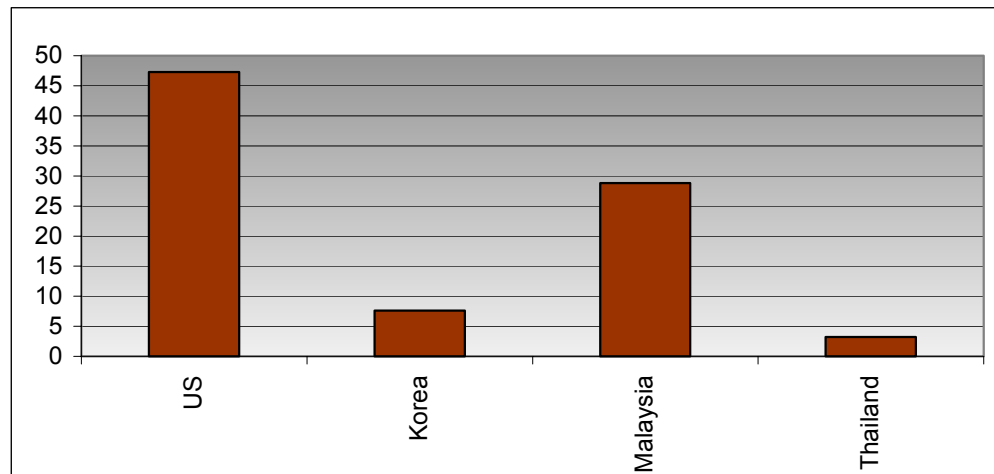
This section points out several factors that have contributed to the underdevelopment of corporate bond markets in Asia. These factors include underdeveloped government bond markets, government interest rate and tax policies, minimum asset requirements, narrow investor bases, and narrow issuer bases.

5.1. Underdeveloped Official Bond Markets

Issuers of Government Bonds

The sizes of government bonds (using, as a proxy, outstanding government bonds issued as a percent of GDP) have been small in Asia compared with those of the United States. This reflects the fact that sound fiscal policy that has been implemented by governments in Asia reduced the need to raise funds by issuing bonds. Indonesia did not issue government bonds prior to the crisis. Among the three Asian countries under examination, Malaysia has the largest government bond market, accounting for about 30% of GDP (Chart 3). Nevertheless, this is far below the level of the United States, where it accounts for 47% of GDP. In Korea and Thailand, government bonds accounted for just 8% and 3%, respectively, of GDP prior to the crisis. In the case of Korea, however, official bonds, including government bonds, accounted for about 23% of GDP, because the Bank of Korea (central bank) actively issued Monetary Stabilization Bonds (MSB). After the crisis, these governments increased the issuance of bonds in order to finance projects to restructure the financial sector and conduct expansionary fiscal policies.

Chart 3: Outstanding Government Bonds Issued for Four Countries (Percent of GDP): 1990 – 1999 Average



Source: DRIASIA; IFS, IMF.

In Korea, official bonds—including government bonds, public bonds (bonds issued by municipal governments and public enterprises) and MSB—accounted for about 35% of total

outstanding bonds including corporate bonds throughout 1980-1999.⁶ Among the official bonds, public bonds and MSB were the major type, as the amount of government bonds was small (Table 8a). The share of official bonds increased from 38% of total outstanding bonds including corporate bonds in 1980 to 49% in 1990, and then dropped to 39% in 1995. However, the share increased again to 46% in 1999, reflecting the growing financing needs of expansionary government activities, social safety nets, and the process of restructuring financial institutions in the post-crisis period. In particular, the proportion of treasury bonds increased rapidly, from only 5% of total outstanding government bonds when first introduced in 1994 to 56% in 1999.

Table 8a: Korea, Issuers of Official Bonds (Percent of Outstanding Official Bonds Issued): 1995-1999

	1995-1996 Average	1997	1998-1999 Average
Government Bonds	17.4	21.9	17.4
Public Bonds	42.5	35.2	40.4
Monetary Stabilization Bonds	40.1	42.9	42.1
Total	100.0	100.0	100.0

Note: Data refer to outstanding official bonds, stock data.

Source: Appendix I.

A more distinctive trend is observed in Malaysia. Official bonds include Malaysian Government Securities (MGS), Government Investment Issues, Khazanah Bonds, Malaysian Savings Bonds, Danaharta Bonds, and Danamodal Bonds. Until the middle of 1950s, the government bond (MGS) market was insignificant because there was no need to obtain funding. MGS were issued mainly to meet the investment needs of the EPF, which had been established in 1951. The government increased the issuance of MGS in the 1970s and 1980s to finance its rapidly growing development expenditure and fiscal deficit. Consequently, it became the dominant issuer in the bond market. While the value of outstanding MGS issued rose throughout the period except for 1994-1995, the share of MGS in outstanding bonds issued, including corporate bonds, dropped from more than 90% in the 1980s to about 70% in the first half of the 1990s, and further to about 50-60% in the second half of the decade.

Since the onset of the crisis, however, the Malaysian government has increased MGS to meet the needs of an expansionary fiscal policy aimed at reviving the economy, and thus to finance the growing fiscal deficit. Furthermore, Danamodal and Danaharta Bonds were introduced; together they accounted for about 10% of total outstanding bonds in 1999. Danamodal was established in 1998 as a special purpose agency to recapitalize, strengthen and restructure banking institutions. Danaharta was established in the same year as a statutory company to purchase non-performing loans from financial institutions and manage

⁶ Monetary stabilization bonds are issued by the Bank of Korea (central bank) as an instrument for monetary policy operations. Owing to the lack of liquidity in the government bond market, the Bank of Korea began to issue bonds in 1961, using them for open market operations.

them to maximize their recovery value. Among official bonds, thus, MGS accounted for 90% of outstanding official bonds issued during 1995-1997, but their share dropped to 74% in 1998-2000 owing to the issuance of Danamodal and Danaharta Bonds (Table 8b).

Table 8b: Malaysia, Issuers of Official Bonds (Percent of Outstanding Official Bonds Issued):1995-2000

	1995-1996 Average	1997	1998-2000 Average
Malaysian Government Securities	92.0	93.4	74.3
Government Investment Issues	6.4	3.8	1.9
Khazanah Bonds	-	1.4	6.7
Malaysian Saving Bonds	1.5	1.2	0.1
Danaharta Bonds	-	-	6.2
Danamodal Bonds	-	-	10.6
Total	100.0	100.0	100.0

Note: Data refer to outstanding official bonds, stock data.

Source: Appendix II.

In Thailand, the government ceased issuing new bonds in 1987 after it started running consecutive budget surpluses. In general, the issuance of government bonds is restricted by the budget law, which states that the government can only issue bonds when a budget deficit arises. Thus, the share of government bonds during 1996-1997 accounted for a mere 2% of all outstanding bond issues including corporate bonds. Among official bonds, government bonds accounted for 3.5% of outstanding official bonds during 1996-1997 (Table 8c). On the other hand, state enterprises, the Financial Institutions Development Fund (FIDF), and the Bank of Thailand (central bank) increased their share of outstanding bond issues to nearly monopolize official bonds in 1997. The FIDF is a financial vehicle aimed at providing liquidity to ailing banks and finance companies. Most of these official bonds are explicitly guaranteed by the government. The issuers of state bonds included the Electricity Generating Authority of Thailand, Telephone Organization of Thailand, Expressway and Rapid Transit Authority and National Housing Authority.

The Thai government started issuing bonds in 1998, and became the largest issuer of bonds, with the share rising from 0.7% of outstanding official bonds in 1997 to 78% in 1998. However, the share then dropped to 61% in 1999 and further to 20% in 2000. The government used these proceeds to finance the liabilities of the FIDF and to recapitalize financial institutions. In 1998, all government bonds were recapitalization bonds issued for the FIDF. In 1999, about 90% of government bonds were recapitalization bonds, of which 84% were for the FIDF, 13% for banks, and 3% for finance companies.

Table 8c: Thailand, Issuers of Official Bonds (Percent of Outstanding Official Bonds Issued):1996-2000

	1996	1997	1998	1999	2000
Government Bonds	6.3	0.7	77.9	60.8	19.9
State Enterprise Bonds	30.6	27.1	11.3	19.7	30.2
BOT Bonds and FIDF Bonds	63.1	71.9	10.8	-	-
Treasury Bills	-	-	-	14.1	49.5
Property Loan Management Organization	-	0.3	-	5.4	0.4
Total Bonds (Public & Corporate)	100.0	100.0	100.0	100.0	100.0

Source: Appendix III.

In Indonesia, the government did not issue bonds, and thus the bond market was barely developed until after the occurrence of the Asian financial crisis. Since the crisis, however, the government has become a leading issuer of bonds, as part of an effort to recapitalize ailing banks and help them restructure their balance sheets. The government issued bonds to capitalize banks that did not meet the 4% capital adequacy requirement. The bonds were then purchased by Bank Indonesia (central bank) to generate funds. The government used the proceeds from these sales as equity to recapitalize banks. Then, the banks undergoing recapitalization were required to purchase the government bonds from Bank Indonesia. In this way, no new money was injected into the market. The government also issued promissory notes to Bank Indonesia to repay the cost of the blanket guarantees given by the bank.

Investors in Government Bonds

In the Korean government bond markets, banks including the bank trust department held around 50% of total bonds before the crisis, and have maintained this share even after the crisis (Table 9a). The most recent data—as of August 2000—indicate that 72% of government bonds were held by banks, 19% by ITCs, and about 3.5% each by insurance firms and securities firms (Park, 2001a).

Table 9a: Korea, Investors of Government Bonds (Percent of Outstanding Official Bonds Issued): 1995-1999^{1,2}

	1995-1996 Average	1997	1993-1999 Average
Banks	23.4	28.7	38.6
Bank-Trusts	31.4	13.6	19.7
Others	45.1	57.8	41.8
Total	100.0	100.0	100.0
Total (100 Bill. of Won)	241	285	514

Note 1: Treasury Bonds, Foreign Exchange Stabilization Fund, Grain Securities, National Housing Bonds, Treasury Bills.

Note 2: Data refer to outstanding official bonds, stock data.

Source: Appendix I.

Among the different types of investors, it is the banking sector that has increased holdings of official bonds in Korea. This reflects an increased awareness of the need to improve internal risk management by increasing holdings of safer assets, the need to improve capital adequacy ratios, and the need to meet liquidity requirements. Since banks' capital levels were already low, they invested in government securities and thereby escaped from the need to worry about capital requirements. Other major investors—which are categorized under “other,” and which include non-bank financial institutions, such as ITCs and securities firms—also increased their purchases of government securities, since they began to recognize the credit risks associated with corporate bonds and shifted their investments to higher quality bonds. Overall, the financial sector (together with the banking sector) has played a crucial role in the official bond market as the major investor.

In the Malaysian official bond market, the EPF has been the dominant investor for more than 40 years. Table 9b indicates that it has held more than 50% of total MGS issued both before and after the crisis. It obtains its resources from mandatory contributions by employers and employees based on a percentage of the employees' wages. It has been required to invest a specified portion of MGS in their asset portfolios. MGS are also eligible liquid assets for commercial banks, merchant banks, and financial institutions that need to meet reserve requirements. This may explain why financial institutions are the second largest investors, accounting for 17% to 23% of outstanding MGS issued during the 1990s. Among them, the banking sector has been the largest investor, accounting for 17% of total MGS issued during 1990-1999. MGS are also eligible assets for insurance companies that need to meet their minimum asset requirements.

Table 9b: Malaysia, Investors of Government Bonds (Percent of Outstanding Government Bond Issues): 1995-2000

	1995-1996 Average	1997	1997-2000 Average
General Government	0.7	0.6	0.2
EPF	59.2	57.5	64.9
SOCSSO	2.7	2.4	2.2
Insurance Companies	8.0	7.9	7.5
Bank Negara Malaysia	0.2	0.2	0.1
Banking Institutions	15.2	19.1	16.9
National Savings Bank	3.2	2.1	1.3
Foreign Holders	2.9	2.6	0.5
Others	8.0	7.5	6.3
Total	100.0	100.0	100.0
Total (Millions of Ringgits)	65,815	66,262	80,878

Note: Data refer to outstanding government bonds, stock data.

Source: Appendix II.

In Malaysia, the EPF's investment policies and portfolios have been determined by an investment panel comprising of members appointed by the Ministry of Finance. The panel is comprised of the EPF's chairman, representatives from the Ministry of Finance, Bank Negara Malaysia, and three financial and investment experts. Since more than 50% of the EPF's investable annual funds (flow resources) and no less than 70% of its total investment funds (stock resources) were required to be invested in MGS in the past, it maintained at least 70% of its investment funds in the form of MGS. In the 1990s, however, it was allowed to diversify into other safe and relatively high yielding instruments, given that the amount of MGS issues was declining owing to a sound fiscal policy. As of the end of June 2000, the EPF held 32% of its investment funds in MGS, 23% in corporate bonds, debentures, guaranteed loans, and promissory loans, 23% in the form of money market instruments, and 21% in the form of equity (Hamid, 2000). Following the EPF, the banking sector is the second largest investor in the official bond market, accounting for more than 15% of the total MGS issues.

In Thailand, commercial banks are the major investors in the official bond market (including government bonds, FIDF bonds, and bonds issued for financial sector restructuring). Table 9c shows that the banking sector accounted for more than 60% of total official bonds issued in 1995-1996, although its holdings of official bonds dropped in terms of both relative shares as well as the absolute value after 1997, reflecting a severe deterioration of their balance sheets and a shortage of available funds. The Bank of Thailand and FIDF were the third largest investors after non-bank financial institutions before the crisis, but have become the second largest since the crisis.

Table 9c: Thailand, Investors of Official Bonds (Percent of Outstanding Government Bonds Issued): 1995-2000^{1,2}

	1995-1996 Average	1997	1997-2000 Average
Bank of Thailand & FIDF	11.3	25.9	20.4
Commercial Banks	64.3	54.9	40.4
Government Savings Bank	0.1	0.0	13.7
Other Financial Institutions	20.5	14.8	9.9
Insurance Companies	0.0	0.0	4.4
Others³	3.7	4.3	11.2
Total	100.0	100.0	100.0
Total (Billions of Baht)	31	14	11

Note 1: Government bonds, including Loan for FIDF and Loan for financial sector restructuring.

Note 2: Data refer to outstanding official bonds, stock data.

Note 3: investors, mutual funds, provident funds.

Source: Appendix III.

The dominance of the banking sector as investors in government bonds has also been observed in post-crisis Indonesia (Table 9d). As of March 2001, the latest month for which data are available, domestic commercial banks held 62% of total government bonds. Prior to the crisis, the government did not issue any bonds, since fiscal surpluses were maintained. After the crisis, it issued bonds to recapitalize weak banks, and these bonds were then purchased by Bank Indonesia and sold to commercial banks in exchange for their stocks. As a result, they did not cause any increase in money supply. For these reasons, most government bonds have been held by domestic commercial banks, although some of them were later sold in the secondary market.

Table 9d: Indonesia, Investors of Government Bonds (Percent of Outstanding Government Bond Issued): March 2001

	Billions of Rupiah	Percent
Private National Banks	28,612	62.2
Foreign Banks	5,723	12.4
Securities Companies	2,519	5.5
Mutual Funds	100	0.2
Insurance	499	1.1
Pension Funds	66	0.1
Private Companies	155	0.3
Other	8,328	18.1
Total	45,993	100.0

Note: Data refer to outstanding bonds, stock data.

Source: Appendix IV.

Maturity of Government Bonds

In Korea, prior to 1994, all government bonds except National Housing Bonds were of a maturity of five years or below. In 1998, the government announced that three years would be the key maturity of government bonds, given that three years was the de-facto representative maturity. The government plans to extend this benchmark to a longer maturity once the three-year government bond is established.

Table 10: Maturity Structure of Government Bonds (Weighted Average)

	Before Crisis	After Crisis
Korea	More than 7 years	Less than 3 years
Malaysia	More than 10 years	6-10 years
Thailand	Less than 5 years	More than 5 years
Indonesia	N.A.	5-10 years

Source: Appendices.

In Malaysia, the maturity of MGS ranges from two to three years to above 15 years. Of these securities, those with a maturity of more than 15 years accounted for over 50% of the total outstanding MGS issued during 1995-1996. After the crisis, however, the rate of those with maturities above 15 years dropped from 52% in 1997 to 38% in 2000.

In Thailand, the maturity of government bonds issued during 1998-1999 ranged from one year to 15 years, with a relatively high concentration in one-year, three-year, seven-year, and 10-year periods.

In Indonesia, the maturity of government bonds ranged from one to 10 years.

Liquidity of Government Bonds

In Korea, until 1994 government bonds were issued at fixed interest rates below market rates. They were also issued through allocations to financial institutions or were forcibly sold to agents (by obliging them to purchase bonds when they bought apartments, for example). Furthermore, issuance patterns were irregular. These factors contributed to low liquidity in the government bond market. These policies were reformed in 1994, when the government rationalized various funds that issued government bonds, merging them into the National Debt Management Fund, and began to issue treasury bonds. Furthermore, it formed an underwriting syndicate and introduced an auction system to the syndicate. Despite these reforms, the issuing terms did not become completely market-based, since the government continued to set a reservation price that did not necessarily reflect market conditions, sell bonds until the bid reached the reservation price, and ration unsold bonds to the syndicate. As a result, these reforms failed to improve the liquidity conditions in the secondary markets.

**Table 11: Liquidity of Government Bonds:
Turnover Ratio**

	Before Crisis	After Crisis
Korea	27%	367%
Malaysia	22%	73%
Thailand	18%	58%
	-	42%

Source: Appendices.

Since the crisis, the Korean government has increased the issuance of bonds and has been making efforts to develop a government bond market in order to establish benchmark assets. In 1999, it replaced the underwriting syndicate system with a primary dealer system and shifted to a market-based approach by eliminating the informal negotiations that had previously been carried out between the government and the syndicate with respect to terms of issuance. Partly because of this reform and partly because of the increase in the amount of government bonds, turnover ratios rose in 1999.

In Malaysia, until financial reforms took place in 1989, MGS were issued at par and were open to the public for subscription with the coupon rates determined by the government. Since 1989, a primary dealer system has been implemented for MGS and Cagamas bonds. Primary dealers are now required to bid at auctions of all primary issues of MGS with maturities up to 10 years and to quote a two-way price for these bonds. The coupon rates are determined based on the weighted average yield of the successful auction bids. With respect to MGS with an original maturity of more than 10 years, on the other hand, bonds are issued as predetermined coupons and sold at par value to selected institutional investors, such as the EPF and the National Savings Bank.

The secondary market for MGS is largely illiquid, mainly because of the stringent minimum asset requirements that were imposed on the EPF, pension funds, and insurance firms in the past. Until 1989, government intervention in coupon rates also deterred the development of a liquid secondary market. After the crisis, the trading volume increased in the secondary market for MGS, reflecting a decline in interest rates and the liberalization of compliance requirements for institutional investors. Nevertheless, trading takes place mostly in bonds nearing maturity, and thus the secondary market has remained underdeveloped, making it difficult to establish a reliable and efficient benchmark yield curve.

In Thailand, the secondary market for government bonds was highly illiquid before the crisis, partly because of the lack of supply. However, since 1999, transactions of government bonds have increased. All recapitalization bonds issued for the FIDF have been registered in the Thai Bond Dealing Center (TBDC) and thus trading has been quite active. By contrast, recapitalization bonds issued for banks and finance companies have not been registered at the TBDC, and have been held by these firms in order to meet the capital requirement.

While government bond issues increased in Thailand in the mist of the crisis, it is likely that the supply will decline once the economy begins to grow on a sustainable basis and the government achieves a budget surplus. The presence of the budget law is likely to prevent Thailand from establishing the benchmark yields curves that are necessary for pricing corporate bonds. The government has also imposed a special 3% business tax on all bond transactions on a gross basis, discouraging trading activities by market dealers and market makers.

In Indonesia, before the crisis, most government bonds were issued as means for recapitalizing banks. Since February 2000, recapitalized banks have been allowed to trade a certain portion of government bonds. The portion was gradually increased from 10% in February 2000, to 15% in September 2000, to 25% in December 2000, and to 35% in February 2001. Consequently, the trading volume has increased gradually. Nevertheless, the turnover ratio remains low because of the inadequate registration and settlement system; lack of market makers; and lack of a Repo market. Furthermore, the yield has often been below the expected market yield.

5.2. Underdeveloped Institutional Investors

In Korea, institutional investors—typically ITCs and bank-trust departments—developed from the 1960s to the 1980s, contributing to the stronger development of bond markets relative to other Asian countries. With the aim of promoting capital markets, the government passed the Capital Market Promoting Act in 1968. Under this act, the Korean Investment Corporation (KIC) was established, with the role of engaging in investment trust businesses and other market-making activities. The KIC was reshuffled over the following few years, and investment trust activities were transferred to the newly established Korea Investment Trust Company (KITC) in 1974. The number of ITCs increased after that year. Banks also became major institutional investors in the 1980s, as they were given permission to engage in trust businesses. These ITCs and banks were the major institutional investors in official and corporate bond markets, accounting for about 70% of total official bonds issued and over 80% of total corporate bonds issued in the 1980s. Their relative importance in the government bond market was declining in the 1990s up until the crisis, but has risen rapidly in the post-crisis period. Furthermore, banks and ITCs have been major investors in the corporate bond market throughout the 1980s and 1990s.

While the potential investor base appears to be large and diversified in Korea, institutional investors are actually concentrated in the financial sector. Furthermore, ITCs, like banks, were implicitly protected by the government through the latter's exercise of managerial authority, as discussed above. Since ITCs were not only protected, but also provided deposit-like fixed returns to their public investors, they were essentially banking institutions when seen from the viewpoint of individual investors. This protection may also have contributed to moral hazard among ITCs and their financiers (i.e. public investors), thereby inhibiting an environment where ultimate creditors made their own investment decisions and bore the risk of their own investment.

In Malaysia, the investor base for government and corporate bonds is concentrated on a single institutional investor (i.e., the EPF) despite the existence of insurance firms, various

financial institutions and other investors. The dominance of one institutional investor raises concern that pricing and the maturity structure are not necessarily market-determined.

In Thailand, the major investors in government bonds are commercial banks and other financial institutions. However, other institutional investors, such as insurance firms and pension funds, tend to be relatively small. This partly reflects the fact that pension funds, mutual funds, and provident funds were established only recently.

In Indonesia, institutional investors such as pension funds and insurance firms are largely underdeveloped. Furthermore, insurance firms tend to prefer holding bank deposits. Between 1993 and 1999, more than 50% of their funds were invested in bank deposits. This can be attributed to a relatively low level of asset accumulation and the relatively short history of the asset management industry. Thus, banks are the major investors in the bond market.

5.3. The Preference of Households for Bank Deposits

Households are generally highly risk-averse, and thus prefer highly liquid and short-term assets such as deposits. This is especially true when per capita incomes and the level of wealth accumulation are relatively low.

In Korea, before the crisis, the major financial assets of households were in the form of deposits with banks and non-bank financial institutions, accounting for more than 40 percent of changes in their total financial assets each year. Among them, the share of bank deposits, including those of merchant banking corporations, increased rapidly, as the financial market was liberalized and non-bank financial institutions attracted depositors by offering higher interest rates. While deposits remained dominant, households increasingly put their funds into ITCs and the trust departments of banks (both recorded under the category of “trust” in Table 12a). Households’ investments in insurance and pension funds remained stable at around 20% in the two decades before the crisis. Nevertheless, households’ investments in bonds were almost nil.

In the post-crisis period, deposits dropped from 46% in 1996 to 35% in 1997, reflecting the difficulties faced by the deposit-taking financial institutions. In particular, when many merchant banking corporations went bust in late 1997, there was a run from these institutions by depositors. During 1998, the Korean government completed the closure of problem merchant banking corporations and small banks, and subsequently announced that there would be no more bank closures. As a result of gains in investors’ confidence, households increased their share of deposits to 56% in 1998 and 74% in 1999. The share of trusts rose from 25% in 1997 to 32% in 1998, as households increasingly invested in ITCs, but dropped to minus 28% in 1999 owing to the bust of the corporate bond market.

**Table 12a: Korea, Financial Asset Composition of Households:
(Percent of Changes in Total Household Assets): 1991-1999**

	1991-1996	1997	1998-1999
Deposits	45.6	35.1	65.0
Trust	23.9	25.1	2.3
Insurance & Pension	18.0	20.7	11.1
Equity	6.1	11.7	15.2
Others	6.4	7.4	6.6
Total	100.0	100.0	100.0

Source: Appendix I.

In Thailand, households held about 75% of their total assets in deposits in 1993 and 95% in 1998 (see Table 12b). The life insurance sector accounted for about 20% of total household financial assets in 1993, but its share dropped to 1.4% in 1998, as a decline in income reduced demand for insurance (suggesting that insurance was regarded as a luxury asset) and increased preference for bank deposits.

**Table 12b: Thailand, Financial Asset Composition of Households
(Percent of Total Household Assets): 1993 and 1998**

	1993	1998
Deposits	74.9	94.5
Life Insurance	18.9	1.4
Equity	1.3	0.3
Provident Funds	0.3	2.1
Others	4.7	1.7
Total	100.0	100.0

Source: Appendix III.

In Indonesia, bank deposits accounted for about 90% of total household financial assets in 1998-1999 (Table 12c). Given the strong preference of households for bank deposits, therefore, there are only a limited number of potential investors in Indonesia. Furthermore, Table 12c suggests that institutional investors are also not well developed.

**Table 12c: Indonesia, Financial Asset Composition of Households
(Percent of Total Household Assets): 1998 and 1999**

	1998	1999
Bank Deposits	92.9	93.7
Securities	-	0.1
Insurance	1.1	0.4
Direct Investment	6.0	5.7
Total	100.0	100.0

Source: Appendix IV.

5.4. Underdeveloped Issuers

There is a relatively big number of large, reputable non-bank firms in Korea and Malaysia, suggesting that the potential issuer base is large. Nevertheless, the corporate sector in Korea had been characterized by low levels of profitability and high levels of debt (Park, 2001b). Particularly, the *chaebols* (conglomerates) leveraged themselves excessively before the crisis, based on the too-big-to-fail policy.⁷ Thus, these corporations need to improve their governance systems and restructure their balance sheets in order to be able to issue bonds at lower costs. In February 1998, the government and business leaders agreed on five principles: (1) enhancing transparency and corporate governance; (2) eliminating cross-debt guarantees between business affiliates; (3) improving corporate financial structures; (4) concentrating on core competence; and, (5) strengthening the accountability of major shareholders and management. They also agreed that measures should be undertaken in order to curb indirect cross ownership to lower the *chaebols'* debt-equity ratios. During 2000, various reforms have been implemented further with respect to the corporate sector; (1) the rights of shareholders have been increased further; (2) the role of boards of directors has been strengthened; (3) the new corporate governance framework is being expanded to include firms listed on the KOSDAQ; (4) the shadow-voting requirement for mutual funds has been removed; and (5) the use of cumulative voting has been facilitated (OECD, 2001).

On the other hand, there are a large number of small and medium enterprises in Indonesia and Thailand. This suggests that it may take longer to develop corporate bond markets in these countries than in Korea and Malaysia, because of the relative small size of the issuer base.

⁷ The average debt-equity ratio of Korean corporations was 396% at the end of 1997, while those of the United States and Japan were 155% and 186%, respectively. As for the top thirty *chaebols*, the ratio was about 519%, reflecting the moral hazard problem generated by the government's implicit guarantee and poor corporate governance systems.

6. Conclusions

This paper has shown that the banking sector remains dominant in Asia, even though there has been a drop in bank loans caused by the banking sector restructuring process. At the same time, this paper suggests that it will likely take time to develop a full-fledged capital market-based financial structure in Asia, where there are numerous issuers that have access to capital markets, in addition to bank loans and numerous diversified public investors. One of the factors deterring the development of such a financial market structure throughout Asia is the lack of adequate informational, legal, and judiciary infrastructure that ensures the confidence of public investors. Given this, the ultimate creditors tend to prefer holding safe, liquid assets, such as bank deposits, rather than diversifying their asset portfolios.

Among Korea, Malaysia, Thailand, and Indonesia, the potential investor and issuer bases are larger and more diversified in the former two than the latter two. Nevertheless, investors are concentrated in specific sectors (i.e. the financial sector) in the case of Korea and there are no apparent differences among those financial institutions, such as ITCs and banks, compared to before the crisis. The ITCs, like banks, were protected implicitly or explicitly by the government. Both the ITCs and banks offered fixed payments to their financiers. Furthermore, ITCs invested largely in corporate bonds, most of which were guaranteed. In the case of Malaysia, while there are a number of small institutional investors, the problem hinges on the presence of a single dominant institutional investor in both the government and corporate bond markets.

Therefore, it can be stated that the investor bases in Korea and Malaysia have been narrow, and that this has contributed to the inactive secondary market. In Malaysia, furthermore, the presence of the captive market generated by the formation of the EPF has given rise to a maturity structure that is not necessarily determined by market forces. Moreover, even though there are relatively numerous large, reputable firms in Korea and Malaysia, they need to improve their corporate governance, balance sheets, and financial structures. This problem is particularly serious in Korea, where many conglomerates are excessively leveraged.

In the case of Thailand and Indonesia, the issuer bases are quite small, since there are few large, reputable enterprises that can issue bonds at reasonably low costs. Furthermore, institutional investors are largely underdeveloped. The banking sector has played a crucial role as issuers and investors, given that banks are dominant financial institutions and that their asset levels are much larger than other institutional investors. In addition, banks generally have informational advantages in the sense that they have more inside information about potential issuers than other investors and thus are willing to purchase securities issued by these firms. Moreover, investors are willing to purchase bank debentures because of their reputation. Thus, banks complement the narrow issuer and investor bases.

This paper concludes that it will take time to shift Asian countries from a bank-dominated financial structure—where banks alone provide traditional banking services, such as accepting deposits, extending loans, and providing liquidity—to a full-fledged capital market-based financial structure. Given that banks already play a crucial role in Asia, this paper stresses that the role of the banking sector should be carefully taken into account when policymakers formulate policy packages to develop corporate bond markets.

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Appendix I. Case of the Republic of Korea

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1. Introduction

The main purpose of Appendix I is to document the development of the Korean bond market, with a focus on the past two decades. Patterns of growth, market structure, and notable regulatory changes are described, and characteristics of the market summarized. The crisis of 1997 was a defining moment for the government bond market, proving a dividing line between a controlled stagnant regime and a liberalized active one. The corporate bond market has shown strong growth since the late 1970s and bonds have played a significant role in corporate financing. At the same time, despite solid growth in terms of quantity, the Korean corporate bond market has displayed features not typical of *arm's length debt*. The boom-and-bust cycle in 1998 and 1999 provide the most dramatic illustration of this.

The second purpose of this appendix is to evaluate the aforementioned observations and propose a hypothetical framework for understanding them. First, regarding the development pattern of the government bond market, this appendix suggests that it should be consistent with the political economy approach on regulatory reforms. Namely, fiscal needs of governments trigger government bond market reforms. For example, Kroszner (2001) has argued that recent government securities market reforms in many countries are fueled by public finance motives to decrease financing funding costs. The history of government bond market reforms in the Republic of Korea (henceforth, Korea) concurs with the argument. Second, this appendix attempts to define the nature of the corporate bond market in Korea, arguing that it was structured similar to the loan market in its risk-bearing mechanism where implicit insurance by the government played an important part. In this sense, bond financing in Korea can be regarded as de-facto loan financing and a cause of the boom and bust in 1998 and 1999.

The rest of the appendix is organized as follows. In the first section, patterns of financing of nonfinancial firms are discussed, together with saving patterns of households. It is shown that bonds have been a significant source of funding for Korean firms in the last two decades. Also, the boom and bust in corporate bond financing in 1998 and 1999 is explained. In the second section, the development process of the Korean bond market is discussed in detail. The origins and structure of the market and regulatory changes are each explained. The third section evaluates the development process and contains concluding remarks.

2. Patterns of Financing and Saving in Korea

2.1. Financing Pattern of Nonfinancial Firms

External Financing Pattern of Nonfinancial Firms

(1) Before the Crisis

The external financing pattern of Korean nonfinancial firms displayed four salient features before the crisis.¹ First, loans from banks and nonbank financial institutions (NBFIs)

¹ The following observations are made relying on data from "flow of funds."

have accounted for the largest portion of external funding over the past 25 years. In terms of stocks, the only exception was the latter five years of the late 1970s. Afterwards, the share of loans remained stable at about 35%.

Second, the direct funding channel including equity, bonds, and commercial paper (CP) has accounted for about the same portion of external financing as loans. Equity has been a stable source of funds, providing about 17% of externally financed resources of nonfinancial firms. Bond financing had increased steadily over the years, rising from a mere 3.3% in the late 1970s to more than 15% in the 1990s in stock. Due to the strong growth of bond financing, the share of direct financing surpassed loans in the 1990s (Table 1).

Third, in contrast, financing from foreign sources decreased from 13.6% in the late 1970s to 4.4% in the early 1990s. Even for the three years before the crisis and in terms of flow, the proportion of shares remained modest at around 5% in 1994 and 1995, and 10% in 1996. This may seem inconsistent with the view that the Korean crisis erupted as a result of the amount of unhedged funds owed to foreign creditors. But, it should be remembered that major domestic borrowers from foreign sources were banks rather than nonfinancial firms.

Table 1: Korea, External Financing of Nonfinancial Firms, Composition of Stock (Percent): 1976-1999

	1976-1980	1981-1985	1986-1990	1991-1995	1996	1997	1998	1999
Bonds	3.3	7.2	10.1	15.5	16.2	16.1	21.0	20.4
Equity	17.8	16.1	18.6	17.9	16.2	15.4	17.0	20.3
CP	1.4	3.0	4.0	5.2	8.6	7.4	6.1	4.2
Subtotal	22.5	26.3	32.7	38.6	41.0	38.9	44.1	44.8
Loans	29.7	33.5	36.1	37.5	36.0	36.1	33.3	32.1
Foreign	13.6	10.9	6.2	4.4	5.7	8.5	5.8	5.4
Others	34.3	29.3	25.1	19.5	17.3	16.6	16.9	17.7
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: Flow of Fund, Bank of Korea.

Table 2: Korea, External Financing of Nonfinancial Firms, Composition of Flow (Percent): 1976-1999

	1976-1980	1981-1985	1986-1990	1991-1995	1996	1997	1998	1999
Bonds	6.0	12.2	16.3	18.8	18.0	23.9	180.0	3.4
Equity	12.2	15.9	21.7	15.6	11.0	7.8	53.0	7.6
CP	2.8	3.4	6.4	8.9	17.6	3.9	-45.8	-32.3
Subtotal	21.0	31.5	44.3	43.3	46.7	35.6	187.4	47.4
Loans	36.3	40.0	35.5	38.3	28.3	37.8	-63.9	4.1
Foreign	11.7	1.6	3.4	3.8	10.5	5.7	-38.5	19.7
Others	31.1	26.8	16.7	14.6	14.5	20.9	15.1	28.8
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: Flow of Fund, Bank of Korea.

Fourth, another component in decline was “others,” including trade credit, whose share reduced from 34.3% in the late 1970s to below 20% in the 1990s.

(2) After the Crisis

Dramatic changes in the external financing pattern ensued after the crisis that can be best identified by focusing on flow data. First, among financial institutions in Korea, merchant banking corporations were hardest hit by the crisis. About 80% of merchant banking corporations are now liquidated or have been merged with securities companies. The mass demise of corporations had a devastating impact on the CP market, since merchant banking corporations handled most CP transactions. Consequently, firms had to repay matured CP, as is indicated by the negative financial flow of CP in 1998 and 1999 (Table 2).

Second and most notable, a “boom and crash” in bond financing took place. In terms of flow, the amount of bond financing sharply increased in 1998 to W46 trillion from W27 trillion in 1997, accounting for almost 80% of the total financing of firms and compensating for contractions in other financing channels. However, the corporate bond market has literally been paralyzed since the middle of 1999 when Daewoo, the third largest conglomerate in Korea, went bankrupt. The boom and bust in the bond market after the crisis is a reflection of the investment trust company (ITC) crisis, as explained later in this section.

Third, as a result of the currency crisis, Korean firms were forced to pay back their borrowings from foreign sources in 1998. But, as the Korean economy recovered rapidly in 1999, firms regained access to foreign financing.

Financing of Manufacturing Firms' Investment

This appendix has been concerned so far only with overall liabilities of firms. However, one may want to know how firms finance specific components of assets, such as increases in fixed assets or investment. Since no such available data exist, this appendix attempts to estimate them based on balance sheet information. The Bank of Korea (BOK) publishes consolidated balance sheets of surveyed firms every year. Focusing on manufacturing firms, this appendix makes the following assumptions. First, only long-term liabilities and capital consisting of equity and retained earnings are used for investment. In other words, firms do not finance investment through short-term or liquid liabilities. Second, if the yearly change is negative in any of the long-term liabilities and capital, those components do not contribute to investment.

Table 3 depicts the estimated financing pattern of manufacturing firms' investment. The shares of each component fluctuate significantly, in particular, that for loans. Hence, it is difficult to take the estimate as being reliable. Nonetheless, it suggests that bonds and loans have contributed comparably to investment of manufacturing firms over the couple of decades leading up to the crisis.

Table 3: Korea, Financing of Manufacturing Firms' Investment (Percent): 1981-1999

	1981-1985	1986-1990	1991-1995	1996	1997	1998	1999
Loans	19.9	27.3	17.5	22.0	59.2	0.0	0.0
Bonds	15.5	14.8	21.6	38.7	25.3	23.4	0.0
Equity	43.8	40.0	33.3	14.4	15.5	76.0	77.8
Retained Earnings	11.0	12.1	18.2	6.5	0.0	0.0	0.4
Others	9.8	5.8	9.3	18.4	0.0	0.6	21.7
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: Estimates by the author; Financial Statement Analysis, Bank of Korea.

2.2. Savings Pattern of Households

(1) Before the Crisis

Savings patterns before the crisis exhibited the following three features. First, the major saving instrument for individuals had always been deposits, though there were changes in composition between bank deposits and NBFIs deposits. The share of NBFIs deposits, in particular merchant banking corporations' deposits, kept increasing as markets were gradually liberalized and NBFIs attracted depositors by providing higher interest rates. Increased savings in NBFIs deposits supported CP financing as well as NBFIs loans.

Second, increasingly larger amounts of savings flowed into ITCs and banks' trust departments. In terms of a five-year average, their share rose from 14.5% in 1981-1985 to 25% in 1991-1995. Related to this, it is notable that households' direct investment in bonds was almost nil (Table 4).

Third, savings in insurance and pensions stayed stable at around 20% throughout the two decades before the crisis.

Table 4: Korea, Saving Pattern of Households, Flow (Percent): 1981-1999

	1981-1985	1986-1990	1991-1995	1996	1997	1998	1999
Deposits	39.9	41.0	45.5	46.1	35.1	55.7	74.2
Trust	14.5	17.6	24.9	19.1	25.1	32.4	-27.9
Insurance & Pension	18.8	19.5	16.9	23.3	20.7	3.3	18.9
Equity	14.5	10.7	5.7	8.2	11.7	9.6	20.7
Others	12.3	11.2	7.0	3.3	7.4	-0.9	14.1
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: Flow of Funds, Bank of Korea.

(2) After the Crisis

The savings flow after the crisis of 1997 reflects the order of occurrence of the troubles that struck the financial sector. Merchant banking corporations went bust in late 1997 and, as a result, deposits in those institutions flowed out, reducing their share of deposits that year. In 1998, a few insurance companies were found to be bankrupt, which resulted in a decrease in this sector's share. As the government finished closing down problem merchant banking corporations and small banks by the middle of 1998, and made it clear that there would be no more bank closures, deposits savings surged rapidly in 1998 and 1999. The share expanded to 56% in 1998 and further to 74.2% in 1999.

Probably the most interesting aspect concerns the pattern of savings in trusts, including savings in ITCs and bank trust departments, which showed a mild expansion in 1998 and a bust in 1999.

2.3. ITC Crisis

In fact, the amount of funds mobilized by ITCs in 1998 up to the middle of 1999 exceeded households' savings in institutions because banks also invested funds from their enlarged deposits in ITC products. Consequently, the funds accumulated in ITCs skyrocketed from below W100 trillion in 1997 to W250 trillion in June 1999 (Table 5). ITCs invested the funds in corporate bonds, which supported the boom in bond financing. In particular, a large amount of investment was made in corporate bonds and CP issued by Daewoo. As of August 1999, ITCs held W27.5 trillion in Daewoo securities (corporate bonds and CP) at face value, which was 10.7% of their total investment.²

When Daewoo went bankrupt in August 1999, investors began running to ITCs demanding redemption. In reaction to the crisis, policymakers intervened and improvised a de-facto ITC holiday. Financial institutions were informally "guided" by the supervisory authority not to seek redemption. As for individual investors, a scheme was devised to induce dispersed redemption: only 50% of investment in Daewoo bonds was paid to those who demanded redemption before 10 November 1999; 80% before 8 February 2000 and 95% after 8 February 2000.³ Nonetheless, the ebb from ITCs continued, shrinking their balance to W150 trillion by the middle of 2000.

Table 5: Korea, Rise and Fall of ITCs, Outstanding Balance (Billions of Won): 1994-2000

	1994	1995	1996	1997	1998	1999.6	1999.12	2000.6
Equity Type	14,144	14,442	15,134	12,413	8,671	30,916	56,667	65,693
Bond Type	43,272	50,148	59,148	81,707	189,983	215,434	132,965	84,091
Short Term	4,430	4,909	9,759	24,898	96,235	110,450	60,618	49,946
Long Term	38,842	45,239	49,389	56,809	93,748	104,983	43,135	21,155
Total	57,416	64,590	74,283	94,120	198,654	246,349	189,632	149,783

Source: Investment Trust, Korea Investment Trust Companies Association.

² Financial Supervisory Commission (2000), p. 389.

³ Financial Supervisory Commission (2000), p. 391.

The boom and bust experienced by ITCs implies that they experienced an investors' run (sudden outflow), preceded by a reversed run (rapid inflow). This begs certain questions, since in theory ITCs should be free from such instability.⁴ First, how were ITCs able to attract such huge resources in a short period of time? And, why did the bankruptcy of Daewoo cause a sudden reversal in the flow? Answering these questions amounts to evaluating the development of the Korean corporate bond market. Hence, this appendix will return to them in the final section.

3. The Korean Bond Market

3.1. The Market Environment

Origins of the Bond Market in Korea

The origins of the bond market in Korea can be traced back to 1949, when the government issued "nation founding bonds."⁵ In the 1950s, government bonds were issued to fund post-war reconstruction and the stock exchange was opened in 1956.

Corporate bonds were introduced much later, when Ssangyong Cement issued convertible bonds in 1963. However, tangible increases in activity did not follow until 1972. In that year, facing a severe downturn in the economy and turmoil in the financial markets, the government introduced guaranteed corporate bonds to ease financial constraints facing companies.⁶ The new instrument became a turning point in the Korean corporate bond market, since explosive growth in new issuances followed and the outstanding balance of corporate bonds soared from W9.9 billion in 1972 to W1,840 billion in 1980.

Emergence of Institutional Investors: Investment Trust Companies, and Bank-Trust Departments

The corporate bond market was able to grow because it was preceded by a buildup of infrastructure, most notably the establishment of institutional investors. In 1968, aiming to promote both equity and bond financing, the Capital Market Promotion Act, a landmark piece of legislation, was passed. Part of this effort included the establishment of the Korean Investment Corporation (KIC), which was to engage in the investment trust business as well as other market-making roles. In order to facilitate its various functions, KIC was reshuffled over the next few years and in 1974 the investment trust business was transferred to the newly established Korea Investment Trust Company (KITC), the first ITC in Korea. Two other ITCs, Daehan and Kookmin, were established in 1977 and 1982, respectively.

⁴ ITCs are collective investment schemes (CISs) in marketable securities, such as US mutual funds or UK unit trusts. A CIS builds a fund by selling its own securities to investors and invests the fund in marketable securities, and so values of CIS-issued securities fluctuate depending on prices of underlying securities. Therefore, in theory, investors in such a CIS should not have incentives to run to the CIS in any circumstances, whether it is a sun spot driven run (Diamond and Dybvig, 1983) or information-based run (Jacklin and Bhattacharya, 1988). Indeed, Gorton and Pennacchi (1993) report empirical evidence that money market funds in the US were immune to investors' runs when a large amount of CP defaulted.

⁵ Bank of Korea (1985).

⁶ The Korea Stock Exchange (1988). Specifically, the government authorized the Korean Investment Corporation to be a guarantor and extended the new business to banks.

Altogether, the three ITCs worked as prominent institutional investors in the corporate bond and equity markets throughout the 1980s.

Further, in 1984 banks were allowed to engage in trust business.⁷ Subsequently, trust departments of banks formed a second group of institutional investors. As a result, since the late 1980s the corporate bond and equity markets have grown mainly based on the demand from ITCs and bank trusts.

Trends in the Interface between the Government, Institutional Investors, and Final Savers

The interface between the government and other players in the bond market may be summarized as “heavy market intervention and implicit insurance” by the government.

First, since prices of financial products were under the government control, issuing interest rates of corporate bonds were decided directly by policymakers until the early 1990s.⁸ In 1991, when interest deregulation was pursued, the government announced as a first step that pricing of corporate bonds with maturities longer than two years would be liberalized. In 1993, liberalization was expanded to include corporate bonds of all maturities, financial debentures, and public bonds.

However, aside from interest rate liberalization, conventions of market intervention continued and until the crisis of 1997, the government routinely intervened in the market to influence interest rates. In 1991, facing rising interest rates, the government introduced an explicit quantity control mechanism. Every bond issuer was required to submit its issuing plan one month in advance, and policymakers (namely, the Controlling Committee for Bond Issuance) decided the allowable issuing volumes.

Second, besides direct market intervention, the government exercised de-facto managing authority over ITCs and banks, though most of the banks and all of the ITCs were privately owned.⁹ Most key managerial decisions such as the introduction of new products, pricing of products, and opening of new branches needed government approval, which was only discretionary. Moreover, probably based on this managerial power, which may be dubbed as “regulatory capital,” policymakers appointed board members in banks and ITCs. As a result, the government sometimes even utilized ITCs to bolster stock prices.

Third, an implicit form of insurance was provided to ITCs and investors in them. As the government assumed de-facto managerial authority, naturally ITCs enjoyed governmental insurance against failure. In addition, assets of ITCs and bank trusts were not marked to market. Thus, when investors demanded redemption, ITCs paid spot cash according to book value, then transferred securities to their own accounts rather than selling them in the market. In this way, investors were shielded from market risk. In fact, fixed payment was promised to investors explicitly until 1990; and even afterwards the practice of guaranteeing certain

⁷ Trust business was first granted to regional banks in 1983, then to city banks in 1984 and foreign banks in 1985. Before 1983, only one special bank (Korea Trust Bank) was permitted to engage in trust business.

⁸ Issuance of Korean government bonds was through a non-market mechanism, as is explained later in this appendix, so the point is confined to the corporate bond market.

⁹ Ownership of Korean banks was dispersed due to the ceiling regulation that restricted maximum shares allowed to one person. And banks owned ITCs while the ownership structure was also dispersed.

payment continued. In short, investors in ITCs were provided implicit insurance just like deposit insurance.

3.2. Overview of Structure and Growth of the Market

Structure

The composition of the bond market is highly diversified. All five classes of bonds are represented: government, public, monetary stabilization, financial, and corporate bonds (Table 6).

The government issues the first kind of bonds. Public bonds are those issued by municipal governments and public enterprises. Monetary Stabilization Bonds (MSBs) may be a peculiar item, for instance issued by the BOK as a monetary policy instrument. As the liquid government bond market was deficient, the BOK began issuing MSBs in 1961 to control liquidity in the market as a substitute for open market operations. Issuance of MSBs greatly increased in the late 1980s, when the BOK implemented a sterilization policy in the face of excess liquidity, which resulted from the large current account surplus. Strictly speaking, MSBs are short-term paper rather than bonds.

Table 6: Korea, Growth and Composition of the Korean Bond Market (100 Billions of Won, Percent): 1980-1999

	Government	Public	MSBs	Financial	Corporate	Total
1980	15.1 (33.6)	1.7 (3.9)	-	9.7 (21.5)	18.4 (41.0)	44.8 <11.9>
1985	32.7 (18.4)	32.4 (18.2)	-	39.0 (21.9)	74.0 (41.5)	178.0 <21.9>
1990	131.1 (21.8)	14.1 (2.3)	152.4 (25.3)	81.8 (13.6)	222.3 (37.0)	601.7 <33.7>
1995	225.2 (15.3)	94.5 (6.4)	258.2 (17.5)	286.3 (19.4)	610.2 (41.4)	1474.4 <39.1>
1996	256.4 (15.1)	113.9 (6.7)	250.3 (14.7)	322.0 (18.9)	760.1 (44.6)	1702.8 <40.7>
1997	285.4 (14.6)	145.8 (7.5)	234.7 (12.0)	385.9 (19.8)	901.1 (46.1)	1952.9 <43.1>
1998	415.7 (15.2)	201.2 (7.4)	456.7 (16.7)	432.4 (15.8)	1226.8 (44.9)	2732.9 <61.5>
1999	611.7 (21.0)	216.9 (7.5)	514.9 (17.7)	369.7 (12.7)	1196.2 (41.1)	2909.4 <60.1>

Note: Data refers to outstanding balance; < > are ratios to nominal GDP.
Source: Monthly Bulletin, Bank of Korea.

In principle, MSBs can be issued with the following different lengths of maturity: 14, 28-, 63-, 91-, 140-, 182-, 364-, 371-, 392-, and 546-day bonds. However, the most important tenor has been the 364-day bonds, accounting for about 95% of all MSBs.¹⁰

¹⁰ Kim, Kim, Woo, Lee, Jang, and Cha (1997).

Before the crisis, some government bonds had similar characteristics to MSBs. In particular, treasury bills and foreign exchange stabilization fund bonds were issued to achieve the objectives of stabilization policies. Although not connected to macroeconomic stabilization policies, other government bonds funded particular policy purposes. For example, grain securities were issued to support grain prices at policy-determined levels.¹¹

Until 1996, only specialized banks could issue financial bonds, or financial debentures as they are officially called in Korea. Those specialized banks included the Korea Development Bank, Korea Long Term Credit Bank, Korea Foreign Exchange Bank, and the Korea Small and Medium Companies Bank. In terms of issuance procedure and other characteristics, financial debentures have been similar to corporate bonds.¹² In 1997, all commercial banks were allowed to issue financial debentures.

Last, nonbank corporations, which include NBFIs such as leasing companies, issue corporate bonds.

Growth

(1) Before the Crisis

The Korean bond market grew solidly and steadily throughout the 1980s and 1990s. The total value of the bond market increased each year and in terms of GDP ratios more than tripled from 1980 to 1989, rising from 12% to 35%, and further to 43% in 1997.

However, growth patterns of components varied. Government bonds and MSBs grew at an uneven pace due to erratic financing needs. For example, in the late 1980s when management of excess liquidity was required, net issuance of MSBs and government bonds rose together. But as macroeconomic conditions turned around, their growth stagnated in the 1990s.

In contrast, financial debentures and corporate bonds exhibited steady and solid growth, reflecting relatively stable financing needs of firms. Since they accounted for more than 60% of the bond market, their robust growth dictated the growth pattern of the Korean bond market as a whole.

(2) After the Crisis

The economic crisis in 1997 caused a boom in the Korean bond market. Major components of the market except financial debentures grew significantly in 1998, but for differing reasons. Net issuance of corporate bonds increased due to the boom in ITCs, as mentioned above. A huge amount of MSBs was issued because of contractionary monetary

¹¹ The government bond market will be analyzed in detail in the following section.

¹² In this respect, financial debentures in Korea are different from those of Japan. Although the Korea Development Bank and Korea Long Term Credit Bank were established and granted the power of issuing bonds following the Japanese long-term credit banking system, the Korean government did not provide subsidies as the Japanese did. In Japan, long-term credit banks sold overpriced debentures to commercial banks, which in turn sold them to the Bank of Japan through open market operations.

policy in early 1998. Last, the largest amount of government bonds is being issued to finance fiscal deficits resulting from the crisis.

In 1999, as the boom in ITCs reached the bust stage and the need for monetary contraction disappeared, the fast growth of corporate bonds and MSBs came to a halt. However, large issuances of government bonds continued to finance fiscal deficits.

3.3. The Korean Government Bond Market

Primary Market

(1) Before the Crisis

As briefly mentioned, government bonds in Korea were issued to finance implementation of specific policies. In practice, a law regarding a certain policy would establish a fund and grant bond-issuing privilege to it. As of 1993, there existed 34 such funds, seven of which had positive outstanding balances.

(a) Terms of Issuance: Issuance Procedure, Regularity, Maturity

Terms of issuance were not market based. All government bonds were issued at lower than market rates and disseminated through either rationing to financial institutions or compulsory selling mechanisms whereby agents were obliged to buy bonds when they bought apartments, etc. Naturally, all government bonds were fixed-rate straight bonds.

**Table 7: Korea, Offerings of Government Bonds by Maturity
(100 Billions of Won, Percent): 1991-1994**

	1991	1992	1993	1994
~ 1 year	50.6 (58.7)	49.9 (58.4)	51.9 (50.1)	44.8 (47.9)
3 year	17.8 (20.7)	16.1 (18.9)	27.7 (26.8)	13.1 (14.0)
5 year	11.3 (13.1)	12.9 (15.1)	20.8 (20.1)	33.4 (35.7)
20 year	6.5 (7.5)	6.6 (7.6)	3.1 (3.0)	2.2 (2.4)

Source: Measures for Bond Market Rationalization, Ministry of Finance and Economy, July, 1995.

Besides, since financing needs were erratic, issuance of government bonds could not be regular.

As for maturity structure, all government bonds except National Housing bonds, were of five- or less than five-year maturity. In particular, for the years 1991 to 1994, where informal data are available, over half of the new offerings were of a maturity of one-year or less.

(b) Reforms in 1994

The government introduced reforms regarding the primary market in government bonds in 1994.¹³

First, it streamlined the 34 funds into five. Remaining were grain security bonds, foreign exchange stabilization bonds, national housing bonds (1 and 2 type), and reimbursement bonds. All other funds and bonds were merged to establish the National Debt Management Fund (NDMF) and issue NDMF bonds, which were renamed Treasury bonds in 1998.

Second, apart from National Housing Bonds, which were sold through a compulsory mechanism, a new issuing procedure was devised. The government formed an underwriting syndicate consisting of essentially all financial institutions. As of 1996, 33 banks, 40 securities companies, eight ITCs, and 29 merchant banking corporations were member institutions of the syndicate. All government bonds, except National Housing Bonds, were to be auctioned to the syndicate, so terms of issuance would be determined according to market conditions.

(c) Impacts of the Reforms

However, reforms had only limited impacts on the market because operational conventions did not change much. Before the auction, the government determined the “reservation price,” considering not only market conditions but also other policy concerns. Through the auction, bonds were sold until the bid reached the reservation price. In the case of unsold bonds, they were rationed to the syndicate.

Further, diagnosing “short-termness” as one of the structural problems in the bond market, the government has carried on issuing long-term government bonds since 1995. As a consequence, most government bonds issued from 1995 to 1997 have had maturities longer than five years. Though not a bad policy in itself, in the absence of liquidity or a secondary market, selling long maturity bonds required paying higher rates, something the government was not ready to do. Thus, pursuing the goal of issuing long-term bonds at “reasonable” terms led only to prolonged governmental intervention in the market.

(2) After the Crisis

The primary market of government bonds underwent revolutionary changes after the crisis of 1997. Crisis management, in particular financial restructuring based on fiscal resources, yielded fiscal deficits that required bond financing on a large scale. Given the changed environment and requests from international organizations such as the International Monetary Fund (IMF) and the World Bank, the government began adopting more reforms. Specifically, taking advantage of the circumstance that a large amount of bond issuance was inevitable, it decided to develop the government bond market to establish a benchmark.

¹³ Ministry of Finance and Economy, *Improvement of Government Bond Management*, 21 July 1993 (in Korean).

(a) Issuance Procedure

A new issuing mechanism was introduced. The government decided to adopt a primary dealer system in 1998, which is popular in advanced countries. In July 1999, primary dealers were selected and the new system was put into operation. With the adoption of the new issuance process and the dismembering of the underwriting syndicate, the informal negotiations on terms of issuance that existed between the government and the syndicate were abolished as well.

Besides, since late 2000, the uniform pricing rule (Dutch pricing rule) has been adopted to replace the multiple pricing rule (conventional rule).

(b) Maturity

Accepting the fact that three years is the representative maturity in the Korean bond market, the government announced in 1998 that three years would be the key maturity of government bonds for the time being. The goal was to establish the three-year government bond as the bond market benchmark.¹⁴ Accordingly, 78% and 64% of government bonds issued in 1998 and 1999, respectively, were of a three-year maturity.

In 2000, the government revealed its future plans. Once the three-year government bond was firmly established as a benchmark, it planned to extend the benchmark to longer maturity and establish a benchmark yield curve over a reasonable range of the maturity spectrum.¹⁵

(c) Regularity of Issuance

The government issues bonds every month in principle and yearly issuing schedules are announced beforehand. In order to enhance market liquidity and minimize government borrowing costs, fungible issue is planned.

(d) Issuance of Foreign Currency Denominated Bonds

Among government bonds, the foreign exchange stabilization fund bond is the only one that can be placed in a foreign currency. However, there were no issuances of foreign currency denominated bonds until 1998. In 1998, to build up depleted foreign exchange reserves in the BOK, the government issued foreign currency denominated bonds, amounting to US\$4.1 billion and Y2.7 billion. All were issued domestically.¹⁶

¹⁴ Ministry of Finance and Economy, *Improving Measures for Government Bonds and the Bond Market*, August 1998.

¹⁵ Ministry of Finance and Economy, *Measures for Reforming the Bond Market Structure*, 4 May 2000.

¹⁶ As of the end of 1999, the outstanding amount of foreign currency denominated government bonds is US\$4 billion.

Secondary Market

(a) Trading

As in other countries, bonds are traded either on the Korea Stock Exchange (KSE) or over-the-counter (OTC). Trading on KSE is limited to listed securities while OTC trading includes both listed and unlisted bonds. While more than 80% of bonds are listed on KSE, most bond trading in Korea takes place at the OTC markets, as is the case in other countries. Government bonds in Korea also have been traded mostly in the OTC market. Before the crisis, trading on KSE was close to nil, even though data are not available. In fact, overall trading activity of government bonds was stagnant before the crisis. Turnover ratios were low at around 20% to 30%.

It seems that the issuance procedure hindered active trading of government bonds. Since issuing rates on government bonds were below market rates, initial buyers tended to hold in order to avoid trading losses.

As amounts of government bonds dramatically increase and terms of issuance are being reformed, trading activity of government bonds is showing signs of growth after the crisis. Turnover ratios surged to 76% and 658% in 1998 and 1999, respectively, from 31% in 1997. However, a large part of the sudden jump in 1999 seems to be more to do with an idiosyncratic factor. The government announced that selection of primary dealers would be based on trading records. To be selected, prospective primary dealers are presumed to have executed false transactions that boosted turnover ratios. Nonetheless, with the reformed issuance procedure and large amounts of bonds, it is predicted that trading of government bonds in Korea will increase steadily.

(b) Yield Curve

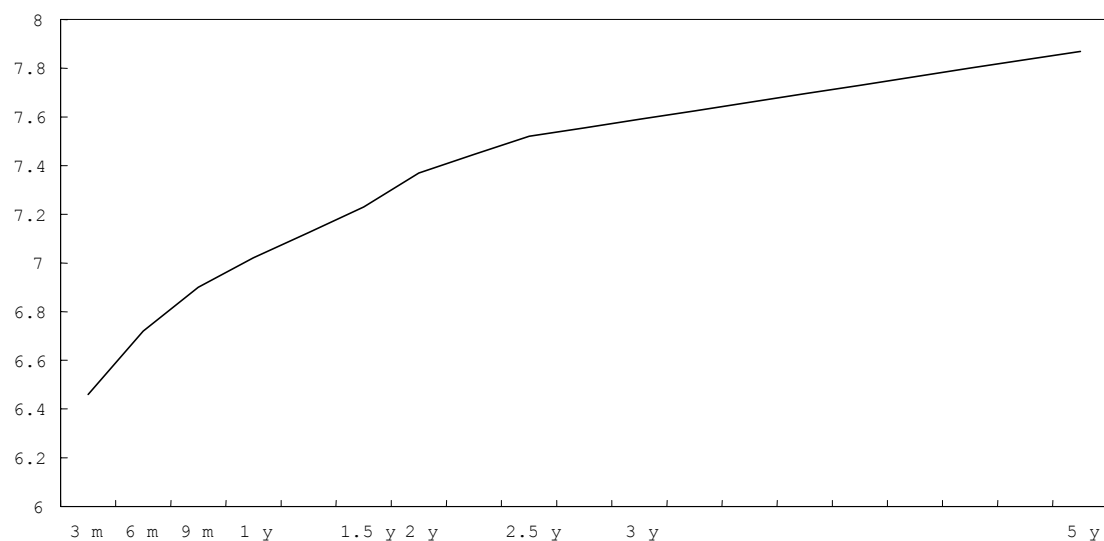
Before the crisis, due to distorted terms of issuance and shortages of standard bonds, yield curves for government bonds did not exist (Table 8 and Chart). However, as distortions are removed and the amounts of bonds have increased, well-shaped yield curves have been coming into existence.

Table 8: Korea, Yield Curve of Treasury Bonds (Percent)

	1998. 12. 31	1999. 12. 30	2000. 11. 1
3 Month	7.12	7.03	6.46
6 Month	7.17	7.70	6.72
9 Month	7.20	8.37	6.90
1 Year	7.24	8.93	7.02
1.5 Year	7.18	9.06	7.23
2 Year	7.12	9.14	7.37
2.5 Year	7.02	9.22	7.52
3 Year	6.95	9.03	7.59
5 Year	7.25	10.05	7.87

Source: The Korea Securities Dealers Association Webster.

Chart: Korea, Yield Curve of Treasury Bond (Percent): 1 November 2000



Appendix I

Investors

(1) Before the Crisis

Before the crisis, major investors in government bonds have been banks, bank trusts, and individuals. Data on the complete ownership structure of government bonds are not available. Hence, when focusing on government and public bonds instead, it can be seen that financial institutions held 55% to 65% of them before the crisis. Individuals constituted the second largest holding group with a 20% to 25% share.

Among financial institutions, banks and bank trusts were dominant holders of government bonds. Specifically, government bond holdings of these two types of institutions accounted for about 60% of the outstanding balance of government bonds. This suggests that among government and public bonds, individual holdings were concentrated in public bonds, while financial institutions including banks and bank trusts invested in government bonds.

The distribution of ownership was brought about by issuance procedures. As noted above, the government issued most government bonds to underwriting syndicates. Since banks and bank trusts were major members of the syndicate, they held the most government bonds. On the other hand, public bonds were issued through compulsory selling mechanisms in which individuals were forced to buy bonds in certain transactions. So this issuance procedure resulted in individuals holding a considerable amount of public bonds.

In short, the holding structure of government bonds before the crisis was the mirror image of the captive market.

(2) After the Crisis

After the crisis, continued reforms have enhanced the investment quality of government bonds. In addition, corporate sector restructuring has kept firms' credit risk high. As a result, financial institutions have been voluntarily increasing holdings of government bonds. The share of financial institutions among holders of government and public bonds rose from 57% in 1997 to 67% and 74% in 1998 and 1999, respectively. As a consequence, the share of individual holdings has decreased from 24% to 13% over the same period.

3.4. Corporate Bond Market

Primary Market

(1) Before the Crisis

(a) Issuance Procedure

The issuance procedure of corporate bonds in Korea does not differ from international conventions. An issuing corporate usually designates a securities firm as the lead manager, who takes full responsibility for distributing the issue to the public. Terms of issuance are negotiated between the issuer and the lead manager.

As mentioned in Section 2 of this Appendix, even after liberalization of interest rates, the government indirectly affected bond pricing by controlling volumes of issuance. But, since this intervention was at least through the market rather than through direct pricing controls, it could be said that rates were determined by market conditions, which the government largely helped to shape.

(b) Fixed vs. Floating

The overwhelming majority of corporate bonds issued have been fixed rate coupon bonds. Although data on floating bonds are not available, there has been essentially no issuance of floating bonds in the 1990s.

(c) Maturity

Throughout the 1990s and to this day, the three-year bond has been the most popular maturity for corporate bonds. More than 90% of corporate bonds have been of three-year maturity since 1990, with the exceptions of 1992 and 1993. In these two years, shares of three-year bonds accounted for 88% and 90%, respectively.

Until 1987, three-year bonds accounted for less than half of newly issued corporate bonds, the rest being longer maturity bonds. It seems that the regime change in 1988 had a lot to do with deregulation. Until 1987, the government regulated the maturity structure of newly issued bonds, but this was abolished in 1988.¹⁷

¹⁷ Securities Supervisory Authority, *Annual Report on the Capital Market*, 1988, pp. 54-56.

(d) Guarantees

Before the crisis, the majority of corporate bonds carried guarantees from financial institutions. The share of guaranteed bonds had been around 85% to 90 % over the past two decades, except for the period 1992 to 1995, when the proportion fell to 60% to 70%. Government policy, once again, seemed responsible for the increases in the proportion of non-guaranteed bonds over those four years. The government (Controlling Committee for Bond Issuance) granted priority to non-guaranteed bonds when adjusting issuance amounts during the period.

There were various guarantors. They included the Guaranteed Fund, surety companies, banks, securities companies, and merchant banking corporations. In the 1980s, banks were major guarantors, accounting for more than 50% of guaranteed bonds. However, their dominance faded while the Guaranteed Fund and surety companies emerged instead as prominent guarantors. In 1997, the Guaranteed Fund and surety companies accounted for 56% of guaranteed outstanding bonds, while banks accounted for only 23%.

The declining dominance of banks as guarantors seems to reflect differences in the regulation and competition environment between banks and other guarantors. Nonbank guarantors were exposed to regulations to a lesser degree. In particular, from the late 1980s, banks were subject to capital regulations, so their opportunity costs for providing guarantee services increased relatively. Also, in the case of securities companies, entry into the industry had already been liberalized in the 1980s. In the face of severe competition, securities companies aggressively increased their guarantee provisions.

(e) Issuers

Large-sized manufacturing companies have been the dominant issuers.

(f) Overseas Issuance

Foreign placement of corporate bonds was rare due to regulations. Although the amount has increased in the late 1990s, it remained about US\$2 billion.

(2) After the Crisis**Dramatic Decrease in Guaranteed Bonds**

The prominent change after the crisis was a drastic reduction in the issuance of guaranteed bonds. The share of guaranteed bonds in the primary market decreased from 85% in 1997 to 31% and 4% in 1998 and 1999, respectively.

This decrease was partly due to a regulation in 1998 that prohibited securities companies from providing guarantees. But it reflects a more fundamental change in behavior of financial institutions toward “risk.” Threatened by bankruptcy for the first time, banks and other financial institutions became more cautious in taking risks.

Secondary Market

(a) Trading

Trading of corporate bonds remained modest, as was the case of government bonds in Korea. But, in contrast to government bonds, their trading activity increased in the 1990s. Turnover ratios almost quadrupled to 91% in 1997 from 24% in 1990. And the rising trend has been visibly greater after the crisis as turnover ratios reached more than two.

Most transactions involving corporate bonds take place in the OTC market, with more than 97% of trading conducted this way in the last five years. Almost all corporate bonds are listed, because many institutional investors are restricted to investing in listed bonds. But, since most transactions are carried out at the OTC, listing is largely a formality.

(b) Investors

Institutional investors have dominated corporate bond ownership. Throughout the 1990s, financial institutions held about 90% of outstanding corporate bonds.

Among financial institutions, ITCs form the largest investor group. However, until 1998, data on ITCs' holdings of corporate bonds were not available and they did not distinguish corporate bonds from non-corporate. In terms of all bonds, disregarding issuers, the ratio of ITCs' holdings to outstanding balances has fluctuated between 30% and 45% before the crisis. In 1999, the first year for which information on ITCs' holdings of corporate bonds exist, ITCs held 38% of outstanding bonds of all kinds and about 60% of outstanding corporate bonds (Table 9).

Aside from ITCs, other notable institutional investors include bank trusts, banks, and insurance companies.

**Table 9: Korea, ITCs' Holdings of Corporate Bond (100 Billions of Won, Percent):
December 1999**

Corporate Bonds	Non-Corporate Bonds	Total
661.6	338.2	999.8
(55.3)	(19.7)	(37.5)

Note: Numbers in () are ratios to outstanding balances of each kind.

Source: Investment Trust, Korea Investment Trust Companies Association.

4. Evaluation of Korean Bond Market Development

4.1. The Government Bond Market

Summary of the Development Process

Development of the government bond market in Korea appears to be dictated by the fiscal conditions set by the government. While fiscal soundness was maintained before the crisis, many of the financing needs had been absent. The government utilized bond financing for compulsory procurement of resources, which called for specific policies. In this sense, issuance of government bonds in Korea was another form of tax rather than borrowings from the market.

There was some attempt at reforms when the government adopted the underwriting syndicate system and the multiple pricing auction system in 1994. But the effort turned out to be abortive, since the fundamental nature of the “captive” market remained intact. Thus, the secondary market for government bonds was stagnant and there was some distance between the government bond market and other financial markets. Using the government bond market as an instrument for developing the corporate bond markets was out of the question.

After the crisis, fundamental changes occurred. The primary dealer system was adopted as a new issuance procedure and distortions in the market have been abolished. For the first time, the government bond market in the genuine sense has been formed. Hence, it may be said that the Korean government bond market has just begun its development and is about to play a positive role in supporting the growth of the corporate bond market, such as through providing a benchmark.

Evaluation

The development process of the Korean government bond market seems to support the political economy view on regulatory reforms: namely, the interpretation that fiscal needs of governments trigger government bond market reforms. For example, Kroszner (2001) has argued that recent reforms of government securities markets in many countries are fueled by public finance motives to decrease financing funding costs.

While overall fiscal soundness was maintained and thus financing needs of the government were limited, the Korean government used government bonds as an implicit taxing instrument on financial institutions. This was feasible and did not create too much of distortion because the magnitude of the taxing was modest. However, after the crisis, fiscal conditions deteriorated and the government faced the need for large-scale resource mobilization, which was difficult to meet through traditional means of compulsory procurement. Incentives for genuine reforms came into existence, resulting in the aforementioned market reforms.

4.2. The Corporate Bond Market

Summary of the Development Process

The pace of development in the Korean corporate bond market has been impressive. From its virtual non-existence until 1973, its presence in external financing of firms has grown to be comparable to the bank loan market since then. The strong growth process has displayed the following features. First, most corporate bonds were guaranteed. Second, ITCs were the major investors. Third, assets of ITCs were not marked to market and they provided deposit-like products to final investors by promising certain payment. In practice, when investors demand redemption, ITCs transferred some of the assets to their own accounts instead of selling them on the market and paid spot cash. Through this mechanism, if losses occurred, they were borne by ITCs rather than final investors. Fourth, presumably due to this procedure, secondary market activity has been stagnant. Fifth, the government was the de-facto governor of ITCs. Hence, implicit insurance by the government existed for ITCs and final investors.

Nature of the Korean Corporate Bond Market before the Crisis

In theory, the key difference between bonds and loans rests in who bears (direct) risks. In bank loans, banks take all the risk, including credit and market risk. Depositors are immune to these direct risks, although they may be exposed to indirect defaulting risk of banks. But in reality, since deposit insurance exists in most countries, whether explicit or not, small depositors are effectively insured from even the indirect risk. In contrast, in the case of bond claims, all the risks fall on bondholders, in principle.

Reflecting this risk-bearing structure, in the case of bank loans, banks perform the monitoring function. In the case of bonds, bondholders are supposed to be the monitors. But due to the free rider problem, monitoring is not provided as intensively as with bank loans. Hence, only the firms that are believed to have less of a tendency towards moral hazard obtain access to the bond market.¹⁸ There are also infrastructural factors. Good accounting practices and more than “limited participation” in the financial markets¹⁹ are required to develop a bond market.

In view of this theoretical characterization of bank loans and bonds, we need to ask who bore risks in the Korean corporate bond market. Before the crisis, ITCs and guarantors (financial institutions) shared the risks. Guarantors took direct credit risks while ITCs bore market risks as well as the defaulting risk of guarantors. Final investors were immune to all the risks just as in the case of bank deposits. In short, ITCs in combination with guarantors formed de-facto banks. They accepted de-facto deposits as banks, but invested in bonds.

However, although they invested in bonds, ITCs chose not to engage in trading. It seems that in order to meet fixed payments to final investors, they found that a “buy and hold

¹⁸ Holmstrom and Tirole (1997) have shown that enough monetary assets (net worth) enable firms to avoid the moral hazard problem. Diamond's model (1991) has emphasized the role of reputation.

¹⁹ Diamond (1997) has shown that when there exists limited participation in the financial markets (so that some traders do not trade), investment in long-term assets will tend to be depressed, anticipating liquidity risk.

to maturity” strategy worked satisfactorily. Moreover, less-than-transparent accounting practices and a limited number of market participants must have been another factor responsible for stagnant trading. Accordingly, ITCs’ bond-trading activity was low and the secondary market for corporate bonds remained underdeveloped. Given such conditions, ITCs and guarantors accepted bonds of shortest maturity allowed, which was three years. As a consequence, corporate bonds showed the characteristics of de-facto loans: they were purchased by a limited number of participants who held them to maturity, were not traded actively, and short-term.

In retrospect, before the crisis in Korea there were two kinds of banking systems: the banking system proper and the de-facto banking system built around ITCs. What caused this evolution? The answer is government policy. While the infrastructure was immature, the government attempted to develop a corporate bond market. It devised the system of ITCs supported by guarantors and the system sustained the development of corporate bonds. Thus, stability was maintained, the same as with the bank system. Charter values were maintained as entry was regulated and the government directly controlled the amount of newly issued corporate bonds. The Korean corporate bond market grew in a similar way to the bank loan market; the ITC industry expanded as the banking industry did.

Interpretation of the ITC Boom and Crash

In 1996, the Korean government introduced an important measure: it liberalized entry into the ITC industry. Immediately, the number of ITCs increased to 23 that year and further to 29 in 1997. The newly opened ITCs were regulated to engage in only equity type business for the first business year and so, coincidentally, most new ITCs began to engage in bond type business at around the eruption of the crisis in 1997. With the entry liberalization, governmental monitoring and control over the expansion of the corporate bond market disappeared as did charter values of ITCs. Another new development was a surge in non-guaranteed bonds after the crisis as new regulations applied to securities companies and some guaranteeing financial institutions went under. Apparently, the old regime was in transition. However, the transition was not complete yet, and most final investors still believed that ITCs were immune from losses.

In the presence of final investors’ moral hazard, the post-crisis environment provided an ideal opportunity for reckless ITCs to expand. While banks and merchant banking corporations were being restructured, financially distressed companies were trying to secure funds at any rates. Financial resources kept flowing into ITCs, which invested them in risky bonds such as those of Daewoo. The ITC and bond-financing booms continued for one and a half years, until the collapse of Daewoo burst the bubble.

In sum, the Korean bond market experienced the familiar sequence of regulated growth, liberalization, boom, and bust. The sequence cannot start without government insurance and some degree of moral hazard, which is often prevalent in the banking sector. Thus, the ITC crisis confirms that the Korean bond market was similar to the Korean banking sector in terms of risk sharing arrangement. Further, it also shows that the Korean corporate bond market must face the same challenges as the banking sector: creation of a new risk sharing mechanism that can sustain more stable financial flows. Whatever the final form of the new system, clearly it will require the government to adopt a new role.

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Reference Tables

Ref. Table 1: Korea, External Financing of Nonfinancial Firms Stock (100 Billions of Won, Percent): 1980-1999

	Direct				Loans		Foreign	Others	Total
	CP	Bonds	Equity	Subtotal	Banks	NBFIs			
1980	10.9	23.0	80.9	114.8	111.1	62.2	81.1	169.6	538.8
	(2.0)	(4.3)	(15.0)	(21.3)	(20.6)	(11.5)	(15.0)	(31.5)	(100.0)
1981	20.4	35.6	96.9	152.9	133.2	83.5	91.9	225.5	687.1
	(3.0)	(5.2)	(14.1)	(22.3)	(19.4)	(12.1)	(13.4)	(32.8)	(100.0)
1982	26.4	56.6	138.6	221.6	163.9	108.7	100.5	260.8	855.5
	(3.1)	(6.6)	(16.2)	(25.9)	(19.2)	(12.7)	(11.7)	(30.5)	(100.0)
1983	35.1	70.4	164.0	269.5	185.4	134.1	115.8	292.4	997.1
	(3.5)	(7.1)	(16.4)	(27.0)	(18.6)	(13.4)	(11.6)	(29.3)	(100.0)
1984	34.2	86.6	190.2	311.0	212.2	181.7	114.2	325.2	1,144.3
	(3.0)	(7.6)	(16.6)	(27.2)	(18.5)	(15.9)	(10.0)	(28.4)	(100.0)
1985	34.8	108.6	215.6	359.0	259.5	211.2	123.9	364.0	1,317.5
	(2.6)	(8.2)	(16.4)	(27.2)	(19.7)	(16.0)	(9.4)	(27.6)	(100.0)
1986	48.9	123.1	250.3	422.3	304.7	226.8	126.9	402.3	1,483.1
	(3.3)	(8.3)	(16.9)	(28.5)	(20.5)	(15.3)	(8.6)	(27.1)	(100.0)
1987	45.5	137.3	298.4	481.2	332.5	267.3	115.9	450.1	1,647.0
	(2.8)	(8.3)	(18.1)	(29.2)	(20.2)	(16.2)	(7.0)	(27.3)	(100.0)
1988	57.1	161.6	357.7	576.3	361.3	282.4	110.5	483.7	1,814.3
	(3.1)	(8.9)	(19.7)	(31.8)	(19.9)	(15.6)	(6.1)	(26.7)	(100.0)
1989	108.4	221.6	428.4	758.4	418.0	362.0	108.0	526.5	2,172.9
	(5.0)	(10.2)	(19.7)	(34.9)	(19.2)	(16.7)	(5.0)	(24.2)	(100.0)
1990	127.4	345.8	489.2	962.4	501.4	476.8	146.5	592.9	2,680.0
	(4.8)	(12.9)	(18.3)	(35.9)	(18.7)	(17.8)	(5.5)	(22.1)	(100.0)
1991	105.3	501.1	567.6	1,174.0	622.3	618.6	180.2	688.0	3,283.1
	(3.2)	(15.3)	(17.3)	(35.8)	(19.0)	(18.8)	(5.5)	(21.0)	(100.0)
1992	147.1	585.3	711.1	1,443.5	702.8	734.6	158.2	786.2	3,825.3
	(3.8)	(15.3)	(18.6)	(37.7)	(18.4)	(19.2)	(4.1)	(20.6)	(100.0)
1993	237.3	702.1	815.0	1,754.4	790.1	853.5	169.9	903.8	4,471.6
	(5.3)	(15.7)	(18.2)	(39.2)	(17.7)	(19.1)	(3.8)	(20.2)	(100.0)
1994	281.3	831.7	950.2	2,063.2	971.3	1,065.6	217.3	1,013.0	5,330.5
	(5.3)	(15.6)	(17.8)	(38.7)	(18.2)	(20.0)	(4.1)	(19.0)	(100.0)
1995	442.3	975.8	1,103.9	2,522.0	1,123.7	1,235.1	288.1	1,129.6	6,298.5
	(7.0)	(15.5)	(17.5)	(40.0)	(17.8)	(19.6)	(4.6)	(17.9)	(100.0)
1996	645.8	1,218.6	1,218.5	3,082.8	1,307.8	1,400.6	428.5	1,301.1	7,520.8
	(8.6)	(16.2)	(16.2)	(41.0)	(17.4)	(18.6)	(5.7)	(17.3)	(100.0)
1997	690.0	1,498.9	1,433.8	3,622.7	1,611.4	1,746.7	789.6	1,544.2	9,314.7
	(7.4)	(16.1)	(15.4)	(38.9)	(17.3)	(18.8)	(8.5)	(16.6)	(100.0)
1998	573.2	1,963.6	1,595.4	4,132.2	1,563.2	1,555.3	540.4	1,579.6	9,370.6
	(6.1)	(21.0)	(17.0)	(44.1)	(16.7)	(16.6)	(5.8)	(16.9)	(100.0)
1999	408.3	1,980.4	1,972.4	4,361.2	1,703.2	1,417.5	526.6	1,723.3	9,731.8
	(4.2)	(20.4)	(20.3)	(44.8)	(17.5)	(14.6)	(5.4)	(17.7)	(100.0)

Source: Flow of Fund, Bank of Korea.

Ref. Table 2: Korea, Financing Pattern of Nonfinancial Firms, Flow (100 Billions of Won, Percent): 1980-1999

	Direct				Loans	Foreign	Others	Total
	CP	Bonds	Equity	Subtotal				
1980	5.8 (4.8)	8.2 (6.8)	12.7 (10.5)	26.6 (22.0)	41.9 (34.5)	19.4 (16.0)	33.3 (27.5)	121.2 (100)
1981	9.5 (6.8)	12.7 (9.1)	15.0 (10.8)	37.2 (26.8)	40.6 (29.3)	5.8 (4.2)	54.9 (39.6)	138.5 (100)
1982	6.1 (4.2)	20.9 (14.3)	31.5 (21.5)	58.5 (39.9)	52.5 (35.8)	1.5 (1.0)	34.0 (23.2)	146.4 (100)
1983	8.7 (6.7)	13.8 (10.7)	23.8 (18.4)	46.3 (35.8)	43.5 (33.6)	9.3 (7.2)	30.3 (23.4)	129.4 (100)
1984	-0.9 (-0.7)	16.2 (11.8)	24.5 (17.9)	39.8 (29.0)	71.7 (52.3)	-6.1 (-4.4)	31.6 (23.1)	137.1 (100)
1985	0.5 (0.4)	21.5 (14.6)	16.4 (11.2)	38.4 (26.2)	71.2 (48.5)	0.9 (0.6)	36.3 (24.7)	146.9 (100)
1986	14.1 (8.8)	14.5 (9.1)	21.5 (13.4)	50.1 (31.4)	61.9 (38.8)	8.1 (5.0)	39.5 (24.8)	159.6 (100)
1987	-3.4 (-1.8)	14.2 (7.5)	49.0 (26.0)	59.8 (31.7)	72.0 (38.2)	-0.9 (-0.5)	57.7 (30.6)	188.7 (100)
1988	11.6 (5.4)	24.2 (11.3)	76.8 (35.8)	112.7 (52.6)	51.9 (24.2)	12.1 (5.6)	37.8 (17.6)	214.4 (100)
1989	51.3 (13.3)	60.0 (15.6)	95.8 (24.9)	207.2 (53.8)	136.6 (35.5)	-1.8 (-0.5)	42.9 (11.2)	384.8 (100)
1990	19.0 (3.7)	124.2 (24.5)	71.9 (14.2)	215.1 (42.4)	194.7 (38.4)	32.5 (6.4)	65.2 (12.8)	507.5 (100)
1991	-22.1 (-3.8)	155.2 (26.7)	87.7 (15.1)	220.8 (37.9)	243.4 (41.8)	24.0 (4.1)	93.6 (16.1)	581.8 (100)
1992	41.8 (7.6)	97.9 (17.8)	87.4 (15.9)	227.1 (41.4)	199.1 (36.3)	25.3 (4.6)	97.4 (17.7)	548.9 (100)
1993	90.2 (14.7)	136.6 (22.2)	101.4 (16.5)	328.1 (53.3)	201.6 (32.8)	-13.0 (-2.1)	98.6 (16.0)	615.3 (100)
1994	44.1 (5.1)	129.6 (15.1)	132.0 (15.4)	305.6 (35.7)	396.5 (46.3)	44.1 (5.1)	110.4 (12.9)	856.6 (100)
1995	161.0 (17.0)	149.6 (15.8)	144.4 (15.3)	455.0 (48.1)	318.7 (33.7)	55.7 (5.9)	116.6 (12.3)	946.0 (100)
1996	207.4 (17.6)	212.1 (18.0)	129.8 (11.0)	549.3 (46.7)	332.3 (28.3)	123.8 (10.5)	170.6 (14.5)	1176.0 (100)
1997	44.2 (3.9)	274.6 (23.9)	89.7 (7.8)	408.6 (35.6)	433.8 (37.8)	65.6 (5.7)	240.0 (20.9)	1147.9 (100)
1998	-116.8 (-45.8)	459.1 (180.1)	135.2 (53.0)	477.4 (187.4)	-162.9 (-63.9)	-98.1 (-38.5)	38.4 (15.1)	254.8 (100)
1999	-164.9 (-32.3)	17.3 (3.4)	389.8 (76.3)	242.2 (47.4)	21.1 (4.1)	100.4 (19.7)	146.9 (28.8)	510.7 (100)

Note: "Others" includes trade credit, payables, etc.
Source: Flow of Fund, Bank of Korea.

Ref. Table 3: Korea, Financing Pattern of Manufacturing Firm, Survey Data (Billions of Won, Percent): 1980-1999

	Long-term Borrowings from Financial Institutions	Bonds	Equity	Others	Retained Earnings	Investment
1980	527 (21)	333 (13)	756 (29)	948 (37)	- (-)	2,564 (100)
1981	1,173 (30)	- (-)	2,032 (53)	652 (17)	- (-)	3,857 (100)
1982	82 (3)	832 (28)	1,564 (53)	308 (10)	193 (6)	2,978 (100)
1983	177 (15)	171 (15)	460 (40)	- (-)	333 (29)	1,141 (100)
1984	- (-)	26 (2)	761 (56)	- (-)	561 (42)	1,348 (100)
1985	1,112 (32)	960 (28)	783 (23)	292 (8)	320 (9)	3,467 (100)
1986	1,802 (46)	245 (6)	453 (12)	- (-)	1,400 (36)	3,900 (100)
1987	1,421 (19)	584 (8)	2,973 (40)	1,759 (24)	727 (10)	7,464 (100)
1988	1,291 (20)	949 (15)	3,530 (54)	- (-)	766 (12)	6,536 (100)
1989	- (-)	716 (23)	2,399 (77)	- (-)	- (-)	3,115 (100)
1990	7,338 (33)	3,932 (18)	8,047 (36)	760 (3)	2,363 (11)	22,439 (100)
1991	1,326 (9)	4,385 (31)	4,428 (32)	2,466 (18)	1,373 (10)	13,978 (100)
1992	3,113 (39)	1,194 (15)	2,699 (34)	- (-)	949 (12)	7,954 (100)
1993	3,560 (18)	3,968 (21)	8,584 (44)	845 (4)	2,367 (12)	19,325 (100)
1994	1,003 (5)	4,786 (24)	6,980 (35)	4,142 (21)	3,107 (16)	20,018 (100)
1995	5,092 (27)	3,019 (16)	4,139 (22)	- (-)	6,862 (36)	19,112 (100)
1996	5,535 (22)	9,711 (39)	3,619 (14)	4,630 (18)	1,626 (6)	25,121 (100)
1997	15,951 (59)	6,826 (25)	4,186 (16)	- (-)	- (-)	26,963 (100)
1998	- (-)	6,272 (23)	20,411 (76)	165 (1)	- (-)	26,848 (100)
1999	- (-)	- (-)	19,253 (78)	5,380 (22)	107 (-)	24,739 (100)

Note: The table is constructed from survey data in various issues of Financial Statement Analysis. Since it is based on a survey, numbers for absolute values need to be taken cautiously and more emphasis should be given to shares. The construction method is as follows. Investment is computed as yearly changes in fixed assets. Changes in the five items on the liability side (excluding short-term liabilities) are computed and those items showing negative changes are dropped. For the remaining items showing positive changes, their sum of changes is computed. Last, their contributions to investment are computed as their weights to this sum and absolute values of the contribution are computed by multiplying values of investment.

Source: Financial Statement Analysis, Bank of Korea.

**Ref. Table 4: Korea, Saving Pattern of Households (100 Billions of Won, Percent):
1980-1999**

	Deposits	Trusts	Insurance & Pensions	Equity	Others	Total
1980	18.7 (46.6)	6.3 (15.7)	5.0 (12.5)	7.6 (18.8)	2.6 (6.4)	40.2 (100)
1981	27.4 (39.0)	8.8 (12.5)	8.1 (11.6)	9.4 (13.4)	16.6 (23.5)	70.4 (100)
1982	44.4 (51.8)	14.4 (16.8)	11.6 (13.5)	11.5 (13.4)	3.8 (4.5)	85.6 (100)
1983	30.7 (44.3)	6.6 (9.6)	18.3 (26.4)	15.3 (22.1)	-1.7 (-2.4)	69.2 (100)
1984	25.1 (28.6)	9.2 (10.5)	18.0 (20.6)	16.2 (18.5)	19.1 (21.8)	87.6 (100)
1985	36.8 (35.7)	23.7 (23.0)	22.8 (22.1)	5.3 (5.1)	14.6 (14.2)	103.1 (100)
1986	65.7 (45.8)	25.8 (18.0)	27.9 (19.4)	4.3 (3.0)	19.7 (13.7)	143.4 (100)
1987	104.1 (51.8)	21.3 (10.6)	39.0 (19.4)	15.0 (7.5)	21.6 (10.8)	201.0 (100)
1988	71.3 (30.5)	43.3 (18.5)	45.7 (19.6)	50.2 (21.5)	23.2 (9.9)	233.8 (100)
1989	93.7 (29.8)	75.1 (23.9)	56.9 (18.1)	55.7 (17.7)	33.0 (10.5)	314.5 (100)
1990	182.4 (47.2)	66.0 (17.1)	81.2 (21.0)	15.6 (4.0)	41.1 (10.6)	386.3 (100)
1991	210.6 (48.1)	50.7 (11.6)	92.5 (21.1)	41.7 (9.5)	42.3 (9.7)	437.8 (100)
1992	193.9 (43.8)	119.5 (27.0)	76.5 (17.3)	33.2 (7.5)	19.6 (4.4)	442.7 (100)
1993	192.9 (40.3)	148.0 (30.9)	70.0 (14.6)	10.6 (2.2)	57.1 (11.9)	478.6 (100)
1994	362.2 (57.8)	169.2 (27.0)	65.6 (10.5)	3.1 (0.5)	26.8 (4.3)	626.9 (100)
1995	249.5 (37.4)	186.7 (28.0)	138.6 (20.8)	59.9 (9.0)	31.6 (4.7)	666.3 (100)
1996	334.9 (46.1)	138.5 (19.1)	169.3 (23.3)	59.8 (8.2)	23.6 (3.3)	726.1 (100)
1997	276.0 (35.1)	197.8 (25.1)	162.9 (20.7)	91.7 (11.7)	58.6 (7.4)	786.9 (100)
1998	343.7 (55.7)	199.5 (32.4)	20.1 (3.3)	59.0 (9.6)	-5.7 (-0.9)	616.6 (100)
1999	492.1 (74.2)	-185.1 (-27.9)	125.6 (18.9)	137.5 (20.7)	93.4 (14.1)	663.5 (100)

Note: "Deposits" includes savings in demand deposits, saving deposits, CDs, cover bills, RPs, nonbank deposits; "Trust" includes Bank Trusts and ITCs.
Source: Flow of Fund, Bank of Korea.

Ref. Table 5: Korea, Outstanding Balance of the Korean Bond Market (100 Billions of Won, Percent): 1980-1999

	Government Bonds	Public Bonds	Monetary Stabilization Bonds	Financial Debentures	Corporate Bonds	Total
1980	15.1 (33.6)	1.7 (3.9)	- (-)	9.7 (21.5)	18.4 (41.0)	44.8 <11.9>
1981	23.9 (30.5)	5.4 (6.9)	- (-)	23.3 (29.7)	25.8 (32.9)	78.3 <16.5>
1982	35.3 (35.3)	11.4 (11.4)	- (-)	19.1 (19.1)	34.1 (34.2)	99.9 <18.3>
1983	37.5 (26.2)	14.8 (10.4)	- (-)	45.4 (31.8)	45.2 (31.6)	142.8 <22.4>
1984	36.6 (21.5)	18.7 (11.0)	- (-)	59.9 (35.2)	54.9 (32.3)	170.1 <23.3>
1985	32.7 (18.4)	32.4 (18.2)	- (-)	39.0 (21.9)	74.0 (41.5)	178.0 <21.9>
1986	34.1 (15.1)	34.1 (15.1)	32.6 (14.5)	37.1 (16.5)	87.5 (38.8)	225.2 <23.7>
1987	63.8 (20.8)	19.0 (6.2)	81.7 (26.7)	40.7 (13.3)	101.2 (33.0)	306.4 <27.6>
1988	75.9 (18.4)	15.4 (3.7)	153.7 (37.3)	48.3 (11.7)	118.9 (28.8)	412.2 <31.2>
1989	102.9 (20.0)	14.0 (2.7)	173.1 (33.6)	61.9 (12.0)	163.2 (31.7)	515.0 <34.8>
1990	131.1 (21.8)	14.2 (2.4)	152.4 (25.3)	81.8 (13.6)	222.3 (36.9)	601.7 <33.7>
1991	161.5 (21.0)	41.7 (5.4)	135.0 (17.5)	120.5 (15.6)	312.0 (40.5)	770.7 <35.6>
1992	185.5 (19.5)	59.4 (6.2)	202.6 (21.3)	145.0 (15.2)	358.4 (37.7)	950.9 <38.7>
1993	191.4 (17.5)	76.6 (7.0)	242.0 (22.1)	187.3 (17.1)	397.7 (36.3)	1,095.0 <39.5>
1994	206.7 (16.6)	75.8 (6.1)	253.4 (20.4)	231.0 (18.6)	477.6 (38.4)	1,244.6 <38.5>
1995	225.2 (15.3)	94.5 (6.4)	258.2 (17.5)	286.3 (19.4)	610.2 (41.4)	1,474.4 <39.1>
1996	256.4 (15.1)	114.0 (6.7)	250.3 (14.7)	322.0 (18.9)	760.1 (44.6)	1,702.8 <40.7>
1997	285.4 (14.6)	145.8 (7.5)	234.7 (12.0)	385.9 (19.8)	901.1 (46.1)	1,952.9 <43.1>
1998	415.7 (15.2)	201.2 (7.4)	456.7 (16.7)	432.4 (15.8)	1,226.8 (44.9)	2,732.9 <61.5>
1999	611.7 (21.0)	216.9 (7.5)	514.9 (17.7)	369.7 (12.7)	1,196.2 (41.1)	2,909.4 <60.1>

Note: Numbers in () are composition out of the total; Number in < > are ratios to nominal GDP; Data on "Monetary Stabilization Bond" before 1986 are not available. And the amounts are included in Financial Debenture.

Source: Monthly Bulletin, Bank of Korea.

Ref. Table 6: Korea, Government Bond Market, Outstanding Amount (100 Billions of Won, Percent): 1980-1999

	Treasury Bonds	Foreign Exchange Stabilization Fund Bonds	Grain Securities	National Housing Bonds	Treasury Bills	Others	Government Bonds
1980	-	-	2.6	3.7	-	8.8	15.1
	(-)	(-)	(17.3)	(24.5)	(-)	(58.2)	(100.0)
1981	-	-	3.1	5.0	0.7	15.1	23.9
	(-)	(-)	(13.0)	(20.7)	(2.8)	(63.4)	(100.0)
1982	-	-	6.5	6.7	0.2	21.9	35.3
	(-)	(-)	(18.4)	(19.1)	(0.5)	(61.9)	(100.0)
1983	-	-	6.0	9.7	-	21.8	37.5
	(-)	(-)	(16.0)	(25.8)	(-)	(58.2)	(100.0)
1984	-	-	7.8	12.5	-	16.3	36.6
	(-)	(-)	(21.3)	(34.1)	(-)	(44.6)	(100.0)
1985	-	-	7.5	14.6	-	10.6	32.7
	(-)	(-)	(22.9)	(44.6)	(-)	(32.4)	(100.0)
1986	-	-	6.7	16.7	2.0	8.7	34.1
	(-)	(-)	(19.7)	(48.9)	(5.9)	(25.5)	(100.0)
1987	-	15.0	8.0	18.3	10.0	12.5	63.8
	(-)	(23.5)	(12.5)	(28.6)	(15.7)	(19.7)	(100.0)
1988	-	9.9	16.6	20.8	15.0	13.6	75.9
	(-)	(13.0)	(21.9)	(27.4)	(19.8)	(17.9)	(100.0)
1989	-	14.0	27.0	25.3	25.0	11.6	102.9
	(-)	(13.6)	(26.2)	(24.6)	(24.3)	(11.3)	(100.0)
1990	-	30.0	37.4	33.9	25.0	4.8	131.1
	(-)	(22.9)	(28.5)	(25.8)	(19.1)	(3.7)	(100.0)
1991	-	44.8	44.9	47.5	22.1	2.2	161.5
	(-)	(27.8)	(27.8)	(29.4)	(13.7)	(1.4)	(100.0)
1992	-	54.8	50.5	61.9	15.8	2.5	185.5
	(-)	(29.6)	(27.2)	(33.4)	(8.5)	(1.3)	(100.0)
1993	-	44.8	62.0	74.2	6.3	4.0	191.4
	(-)	(23.4)	(32.4)	(38.8)	(3.3)	(2.1)	(100.0)
1994	11.3	42.0	60.2	87.1	1.0	5.1	206.7
	(5.4)	(20.3)	(29.1)	(42.2)	(0.5)	(2.5)	(100.0)
1995	29.6	42.0	48.7	100.5	-	4.4	225.2
	(13.1)	(18.7)	(21.6)	(44.6)	(-)	(2.0)	(100.0)
1996	48.7	42.0	48.7	113.8	-	3.3	256.4
	(19.0)	(16.4)	(19.0)	(44.4)	(-)	(1.3)	(100.0)
1997	63.2	42.0	48.7	129.7	-	1.8	285.4
	(22.1)	(14.7)	(17.1)	(45.5)	(-)	(0.6)	(100.0)
1998	187.8	39.0	48.7	140.0	-	0.2	415.7
	(45.2)	(9.4)	(11.7)	(33.7)	(-)	(-)	(100.0)
1999	342.3	62.0	48.7	158.6	-	-	611.7
	(56.0)	(10.1)	(8.0)	(25.9)	(-)	(-)	(100.0)

Note: Foreign exchange stabilization bonds denominated in foreign currency are not included. The outstanding balances of those bonds are US\$4.1 billion, Y2.7 billion for 1998, and US\$4 billion for 1999.

Source: Monthly Bulletin, Bank of Korea.

Ref. Table 7: Korea, Maturity Profile of Primary Market for Treasury Bonds (100 Billions of Won): 1994-1998

Issuance Year	1 Year	3 Year	5 Year	7 Year	10 Year	Total
1994		6.26	5.00			11.26
1995			3.40	5.39	9.54	18.33
1996				7.65	11.45	19.10
1997		0.19		6.37	12.50	19.06
1998	27.00	97.63				124.63
Total	27.00	104.07	8.40	19.41	33.49	192.38

Source: Accounts on National Debt, Government of Korea.

Ref. Table 8: Korea, Turnover Ratio on Government Bonds (100 Billions of Won, Percent): 1988-1999

	Trading Value			Outstanding Amounts	Turnover Rate
	OTC	Exchange	Total		
1988	45.7 (100.0)	N/A	45.7 (100.0)	75.9	0.30
1989	34.3 (100.0)	N/A	34.3 (100.0)	102.9	0.17
1990	50.2 (100.0)	N/A	50.2 (100.0)	131.1	0.19
1991	53.3 (100.0)	N/A	53.3 (100.0)	161.5	0.16
1992	86.9 (100.0)	N/A	86.9 (100.0)	185.5	0.23
1993	59.0 (100.0)	N/A	59.0 (100.0)	191.4	0.15
1994	55.7 (100.0)	N/A	55.7 (100.0)	206.7	0.13
1995	129.8 (100.0)	N/A	129.8 (100.0)	225.2	0.29
1996	120.8 (100.0)	N/A	120.8 (100.0)	256.4	0.24
1997	176.8 (100.0)	N/A	176.8 (100.0)	285.4	0.31
1998	626.0 (99.7)	2.0 (0.3)	628.0 (100.0)	415.7	0.76
1999	5,236.1 (65.1)	2,811.2 (34.9)	8,047.3 (100.0)	611.7	6.58

Note: Turnover Rate = (Trading value/2) ÷ outstanding amounts.

Source: Securities, Korea Securities Dealers Association

Ref. Table 9: Korea, Investors in Government and Public Bonds (100 Billions of Won, Percent): 1980-1999

	Financial	Government	Corporate	Private	Foreign	Total
1980	10.7 (80.0)	- (-)	0.8 (6.1)	1.9 (13.9)	- (-)	13.3 (100.0)
1981	16.7 (68.7)	- (-)	1.5 (6.0)	6.1 (25.3)	- (-)	24.3 (100.0)
1982	25.2 (80.2)	- (-)	1.7 (5.5)	4.5 (14.2)	- (-)	31.4 (100.0)
1983	29.5 (81.2)	0.2 (0.7)	2.8 (7.7)	3.8 (10.4)	- (-)	36.3 (100.0)
1984	23.6 (70.0)	0.2 (0.7)	4.1 (12.0)	5.8 (17.2)	- (-)	33.8 (100.0)
1985	22.4 (73.2)	0.3 (1.0)	4.1 (13.3)	3.8 (12.4)	- (-)	30.6 (100.0)
1986	25.8 (76.2)	0.4 (1.3)	4.5 (13.2)	3.2 (9.3)	- (-)	33.8 (100.0)
1987	34.4 (82.9)	0.1 (0.3)	3.1 (7.6)	3.8 (9.2)	- (-)	41.4 (100.0)
1988	42.3 (86.6)	- (0.1)	2.8 (5.8)	3.7 (7.5)	- (-)	48.8 (100.0)
1989	43.8 (78.2)	- (-)	5.3 (9.5)	6.8 (12.2)	- (-)	56.0 (100.0)
1990	43.7 (68.1)	0.1 (0.1)	9.2 (14.3)	11.2 (17.4)	- (-)	64.1 (100.0)
1991	55.7 (65.2)	1.3 (1.5)	12.7 (14.8)	15.8 (18.5)	- (-)	85.4 (100.0)
1992	75.1 (61.8)	2.5 (2.1)	18.9 (15.6)	25.0 (20.6)	- (-)	121.6 (100.0)
1993	97.8 (62.4)	4.0 (2.6)	22.8 (14.6)	32.0 (20.4)	- (-)	156.7 (100.0)
1994	114.8 (58.7)	4.0 (2.1)	31.9 (16.3)	44.7 (22.9)	- (-)	195.5 (100.0)
1995	129.9 (54.4)	4.2 (1.8)	44.8 (18.8)	59.9 (25.1)	- (-)	238.9 (100.0)
1996	151.2 (53.5)	10.0 (3.5)	50.6 (17.9)	70.7 (25.0)	- (-)	282.6 (100.0)
1997	186.0 (56.5)	5.3 (1.6)	57.3 (17.4)	80.4 (24.4)	0.1 (-)	329.0 (100.0)
1998	330.8 (66.8)	5.4 (1.1)	66.9 (13.5)	92.2 (18.6)	0.1 (-)	495.4 (100.0)
1999	510.8 (74.0)	23.1 (3.3)	65.1 (9.4)	89.7 (13.0)	2.0 (0.3)	690.6 (100.0)

Source: Flow of Funds, Bank of Korea.

Ref. Table 10: Korea, Government Bond Holdings of Banks (100 Billions of Won, Percent), 1980-1999

	Banks	Bank Trusts	Total	(Outstanding Government Bonds
1980	9.5 (63.0)	0.2 (1.0)	9.6 (64.0)	15.1
1981	12.9 (54.1)	1.8 (7.4)	14.7 (61.5)	23.9
1982	18.9 (53.6)	4.9 (13.9)	23.8 (67.5)	35.3
1983	19.8 (52.9)	2.2 (5.8)	22.0 (58.7)	37.5
1984	17.5 (48.0)	1.3 (3.4)	18.8 (51.4)	36.6
1985	13.6 (41.5)	0.7 (2.2)	14.3 (43.7)	32.7
1986	21.0 (61.5)	1.1 (3.2)	22.0 (64.7)	34.1
1987	30.2 (47.3)	13.2 (20.7)	43.4 (68.0)	63.8
1988	37.5 (49.5)	15.2 (20.0)	52.7 (69.5)	75.9
1989	34.1 (33.1)	26.1 (25.3)	60.1 (58.5)	102.9
1990	43.0 (32.8)	44.0 (33.5)	87.0 (66.3)	131.1
1991	54.1 (33.5)	46.3 (28.7)	100.4 (62.1)	161.5
1992	36.0 (19.4)	60.5 (32.6)	96.5 (52.0)	185.5
1993	39.2 (20.5)	59.7 (31.2)	98.9 (51.7)	191.4
1994	46.9 (22.7)	73.5 (35.6)	120.4 (58.2)	206.7
1995	54.8 (24.3)	71.9 (31.9)	126.7 (56.3)	225.2
1996	57.7 (22.5)	79.1 (30.9)	136.8 (53.4)	256.4
1997	81.8 (28.7)	38.7 (13.6)	120.6 (42.2)	285.4
1998	153.3 (36.9)	79.9 (19.2)	233.2 (56.1)	415.7
1999	245.7 (40.2)	122.7 (20.1)	368.4 (60.2)	611.7

Note: Numbers in () are ratios to outstanding amount of government bonds.
Source: Monthly Bulletin, Bank of Korea.

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Ref. Table 11: Korea, Offerings of Corporate Bonds by Maturity (100 billions of Won, Percent): 1980-1999

	Less than 4 Years	4 Years- less than 5 Years	5 Years and Over	Total
1980	9.6 (100.0)	- (-)	- (-)	9.6 (100.0)
1981	10.2 (97.1)	0.3 (2.9)	- (-)	10.5 (100.0)
1982	13.1 (61.2)	7.6 (35.5)	0.7 (3.3)	21.4 (100.0)
1983	6.2 (41.3)	7.8 (52.0)	1.0 (6.7)	15.0 (100.0)
1984	9.8 (52.7)	8.8 (47.3)	- (-)	18.6 (100.0)
1985	14.9 (46.3)	13.8 (42.9)	3.5 (10.9)	32.2 (100.0)
1986	11.6 (42.6)	12.5 (46.0)	3.1 (11.4)	27.2 (100.0)
1987	15.1 (47.3)	15.2 (47.6)	1.6 (5.0)	31.9 (100.0)
1988	34.0 (80.2)	8.2 (19.3)	0.2 (0.5)	42.4 (100.0)
1989	52.8 (75.9)	14.8 (21.3)	2.0 (2.9)	69.6 (100.0)
1990	102.9 (92.8)	6.9 (6.2)	1.1 (1.0)	110.9 (100.0)
1991	119.0 (93.6)	4.4 (3.5)	3.8 (3.0)	127.2 (100.0)
1992	97.6 (87.5)	5.4 (4.8)	8.6 (7.7)	111.6 (100.0)
1993	140.3 (89.9)	7.8 (5.0)	7.9 (5.1)	156.0 (100.0)
1994	186.3 (92.9)	3.4 (1.7)	10.8 (5.4)	200.5 (100.0)
1995	221.7 (93.9)	0.5 (0.2)	13.8 (5.8)	236.0 (100.0)
1996	287.7 (96.2)	0.7 (0.2)	10.7 (3.6)	299.1 (100.0)
1997	338.7 (97.2)	0.3 (0.1)	9.3 (2.7)	343.3 (100.0)
1998	556.7 (99.4)	0.5 (0.1)	2.9 (0.5)	560.1 (100.0)
1999	287.7 (93.8)	2.9 (0.9)	16.1 (5.2)	306.7 (100.0)

Source: Monthly Review of Securities, Securities Supervisory Board (before 1998); Monthly Financial Statistics Bulletin, Financial Supervisory Service (after 1999).

**Ref. Table 12: Korea, Offerings of Corporate Bonds by Type
(100 Billions of Won, Percent): 1980-1999**

	C uaranteed	Non-C uaranteed	Total
1980	9.6 (100.0)	- (-)	9.6 (100.0)
1981	9.7 (94.2)	0.6 (5.8)	10.3 (100.0)
1982	20.9 (99.1)	0.2 (0.9)	21.1 (100.0)
1983	14.2 (100.0)	- (-)	14.2 (100.0)
1984	16.3 (92.1)	1.4 (7.9)	17.7 (100.0)
1985	29.1 (93.0)	2.2 (7.0)	31.3 (100.0)
1986	24.1 (88.9)	3.0 (11.1)	27.1 (100.0)
1987	27.8 (87.7)	3.9 (12.3)	31.7 (100.0)
1988	41.9 (99.3)	0.3 (0.7)	42.2 (100.0)
1989	61.6 (88.6)	7.9 (11.4)	69.5 (100.0)
1990	92.0 (83.1)	18.7 (16.9)	110.7 (100.0)
1991	109.7 (86.2)	17.5 (13.8)	127.2 (100.0)
1992	83.3 (74.7)	28.2 (25.3)	111.5 (100.0)
1993	111.9 (71.6)	44.4 (28.4)	156.3 (100.0)
1994	114.6 (57.2)	85.9 (42.8)	200.5 (100.0)
1995	164.7 (69.8)	71.3 (30.2)	236.0 (100.0)
1996	273.8 (91.5)	25.3 (8.5)	299.1 (100.0)
1997	291.9 (85.1)	51.3 (14.9)	343.2 (100.0)
1998	175.1 (31.3)	383.9 (68.7)	559.0 (100.0)
1999	12.8 (4.2)	293.4 (95.8)	306.2 (100.0)

Source: Monthly Review of Securities, Securities Supervisory Board (before 1998); Monthly Financial Statistics Bulletin, Financial Supervisory Service (after 1999).

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**Ref. Table 13: Korea, Guaranteed Corporate Outstanding Bonds by Guarantor
(100 Billions of Won, Percent): 1980-1999**

	Banks	Guaranteed Funds and Surety Companies	Merchant Banking Corps.	Securities Firms	Others	Total
1980	14.8 (80.9)	2.4 (13.1)	1.1 (6.0)	- (-)	- (-)	18.3 (100.0)
1981	19.2 (76.2)	2.8 (11.1)	2.7 (10.7)	- (-)	0.5 (2.0)	25.2 (100.0)
1982	26.0 (78.3)	1.8 (5.4)	3.9 (11.7)	- (-)	1.5 (4.5)	33.2 (100.0)
1983	34.4 (76.8)	2.0 (4.5)	4.9 (10.9)	- (-)	3.5 (7.8)	44.8 (100.0)
1984	35.2 (66.4)	2.4 (4.5)	7.2 (13.6)	1.6 (3.0)	6.6 (12.5)	53.0 (100.0)
1985	42.6 (61.8)	3.3 (4.8)	7.5 (10.9)	2.6 (3.8)	12.9 (18.7)	68.9 (100.0)
1986	49.4 (62.5)	3.9 (4.9)	6.9 (8.7)	4.0 (5.1)	14.8 (18.7)	79.0 (100.0)
1987	54.4 (59.8)	5.0 (5.5)	7.3 (8.0)	5.1 (5.6)	19.1 (21.0)	90.9 (100.0)
1988	57.9 (52.4)	6.5 (5.9)	8.6 (7.8)	15.5 (14.0)	22.0 (19.9)	100.5 (100.0)
1989	56.9 (38.2)	9.8 (6.6)	13.7 (9.2)	47.4 (31.8)	21.1 (14.2)	148.9 (100.0)
1990	73.9 (35.0)	27.6 (13.1)	16.1 (7.6)	71.8 (34.0)	21.5 (10.2)	210.9 (100.0)
1991	108.0 (40.3)	55.6 (20.8)	12.7 (4.7)	76.7 (28.7)	14.7 (5.5)	267.7 (100.0)
1992	130.0 (44.4)	65.9 (22.5)	9.9 (3.4)	75.7 (25.8)	11.6 (4.0)	293.1 (100.0)
1993	151.8 (49.3)	53.4 (17.3)	11.8 (3.8)	84.6 (27.5)	6.2 (2.0)	307.8 (100.0)
1994	145.2 (46.0)	36.7 (11.6)	25.0 (7.9)	105.5 (33.4)	3.5 (1.1)	315.9 (100.0)
1995	149.7 (37.2)	83.3 (20.7)	46.9 (11.6)	121.1 (30.1)	1.8 (0.4)	402.8 (100.0)
1996	174.0 (30.8)	218.4 (38.6)	69.7 (12.3)	101.7 (18.0)	1.9 (0.3)	565.7 (100.0)
1997	166.5 (22.6)	413.5 (56.2)	75.8 (10.3)	78.4 (10.7)	1.6 (0.2)	735.8 (100.0)
1998	132.5 (17.7)	520.6 (69.7)	50.7 (6.8)	41.6 (5.6)	1.5 (0.2)	746.9 (100.0)
1999	39.7 (12.3)	382.4 (78.6)	22.8 (4.7)	21.2 (4.4)	0.3 (0.1)	486.4 (100.0)

Source: Monthly Review of Securities, Securities Supervisory Board (before 1998);
Monthly Financial Statistics Bulletin, Financial Supervisory Service (after 1999).

**Ref. Table 14: Korea, Offerings of Corporate Bonds by Company Size
(100 Billions of Won, Percent): 1980-1999**

	Large-sized Businesses	Small and Medium Sized Businesses	Total
1980	9.2 (85.8)	0.4 (4.2)	9.6 (100.0)
1981	10.1 (97.1)	0.3 (2.9)	10.4 (100.0)
1982	20.5 (95.8)	0.9 (4.2)	21.4 (100.0)
1983	12.0 (83.9)	2.3 (16.1)	14.3 (100.0)
1984	14.4 (79.6)	3.7 (20.4)	18.1 (100.0)
1985	27.2 (85.5)	4.6 (14.5)	31.8 (100.0)
1986	21.9 (80.2)	5.4 (19.8)	27.3 (100.0)
1987	27.3 (85.6)	4.6 (14.4)	31.9 (100.0)
1988	36.7 (86.6)	5.7 (13.4)	42.4 (100.0)
1989	57.1 (82.0)	12.5 (18.0)	69.6 (100.0)
1990	83.4 (75.3)	27.4 (24.7)	110.8 (100.0)
1991	91.3 (71.8)	35.8 (28.2)	127.1 (100.0)
1992	93.7 (84.0)	17.8 (16.0)	111.5 (100.0)
1993	131.0 (84.0)	25.0 (16.0)	156.0 (100.0)
1994	174.5 (87.0)	26.0 (13.0)	200.5 (100.0)
1995	290.4 (91.6)	26.6 (8.4)	317.0 (100.0)
1996	265.2 (88.7)	33.8 (11.3)	299.0 (100.0)
1997	323.5 (94.3)	19.7 (5.7)	343.2 (100.0)
1998	552.9 (98.7)	7.1 (1.3)	560.0 (100.0)
1999	249.4 (95.1)	12.9 (4.9)	262.3 (100.0)

Source: Monthly Review of Securities, Securities Supervisory Board (before 1998);
Monthly Financial statistics Bulletin, Financial Supervisory Service (after 1999).

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**Ref. Table 15: Korea, Corporate Bonds Issued by Industries (Billions of Won, Percent):
1980-1999**

	Manufacturing	Construction	Wholesale & Retail Trade, Repair of Consumer Goods	Transport, Storage	Communication	Financial Inter-mediation	Others	Total
1980	708.2 (73.5)	157.6 (16.4)	56.2 (5.8)	40.3 (4.2)	- (-)	- (-)	1.4 (0.1)	963.7 (100.0)
1981	687.9 (66.4)	239.2 (23.1)	58.4 (5.6)	29.9 (2.9)	- (-)	1.8 (0.2)	18.9 (1.8)	1,036.1 (100.0)
1982	1,354.5 (64.1)	415.1 (19.6)	155.0 (7.3)	143.9 (6.8)	- (-)	- (-)	44.2 (2.1)	2,112.7 (100.0)
1983	920.6 (64.5)	271.3 (19.0)	98.0 (6.9)	96.0 (6.7)	- (-)	12.5 (0.9)	28.1 (2.0)	1,426.5 (100.0)
1984	1,264.8 (70.1)	237.8 (13.2)	153.8 (8.5)	64.1 (3.6)	- (-)	43.4 (2.4)	40.2 (2.2)	1,804.1 (100.0)
1985	2,268.6 (71.4)	468.5 (14.7)	264.1 (8.3)	81.9 (2.6)	- (-)	48.0 (1.5)	45.6 (1.4)	3,176.7 (100.0)
1986	1,578.1 (57.8)	524.9 (19.2)	278.6 (10.2)	42.6 (1.6)	- (-)	253.4 (9.3)	51.3 (1.9)	2,728.9 (100.0)
1987	2,187.5 (68.6)	326.9 (10.2)	273.0 (8.6)	69.4 (2.2)	- (-)	238.0 (7.5)	94.8 (3.0)	3,189.6 (100.0)
1988	2,875.7 (67.8)	493.7 (11.6)	310.4 (7.3)	116.2 (2.7)	- (-)	358.9 (8.5)	89.4 (2.1)	4,244.3 (100.0)
1989	4,724.3 (67.9)	930.8 (13.4)	624.9 (9.0)	116.0 (1.7)	- (-)	393.1 (5.6)	170.0 (2.4)	6,959.1 (100.0)
1990	5,054.8 (45.6)	1,429.6 (12.9)	1,063.7 (9.6)	134.9 (1.2)	- (-)	1,259.4 (11.4)	2,141.2 (19.3)	11,083.6 (100.0)
1991	8,229.5 (64.6)	1,232.7 (9.7)	727.9 (5.7)	180.8 (1.4)	- (-)	2,200.5 (17.3)	169.3 (1.3)	12,740.7 (100.0)
1992	6,151.6 (55.1)	1,232.8 (11.1)	776.5 (7.0)	131.0 (1.2)	- (-)	655.5 (5.9)	2,207.9 (19.8)	11,155.3 (100.0)
1993	11,226.0 (72.0)	1,925.7 (12.3)	1,078.0 (6.9)	177.1 (1.1)	- (-)	803.0 (5.1)	388.5 (2.5)	15,598.3 (100.0)
1994	13,260.6 (66.2)	3,400.0 (17.0)	1,641.3 (8.2)	213.3 (1.1)	- (-)	1,170.9 (5.8)	347.1 (1.7)	20,033.2 (100.0)
1995	16,004.6 (67.9)	3,197.3 (13.6)	1,667.9 (7.1)	198.5 (0.8)	142.0 (0.6)	2,042.9 (8.7)	328.0 (1.4)	23,581.2 (100.0)
1996	22,424.3 (75.0)	3,744.0 (12.5)	1,772.4 (5.9)	311.2 (1.0)	214.0 (0.7)	889.9 (3.0)	546.7 (1.8)	29,902.5 (100.0)
1997	24,862.6 (72.4)	3,612.2 (10.5)	3,406.8 (9.9)	424.3 (1.2)	668.0 (1.9)	716.8 (2.1)	631.4 (1.8)	34,322.1 (100.0)
1998	33,001.0 (65.5)	3,909.8 (7.8)	8,549.5 (17.0)	1,517.0 (3.0)	2,496.5 (5.0)	106.0 (0.2)	767.0 (1.5)	50,346.8 (100.0)
1999	14,469.1 (47.1)	2,192.8 (7.1)	5,018.4 (16.3)	1,696.0 (5.5)	1,385.0 (4.5)	4,246.7 (13.8)	1,703.4 (5.5)	30,711.4 (100.0)

Source: Monthly Review of Securities, Securities Supervisory Board (before 1998); Monthly Financial Statistics Bulletin, Financial Supervisory Service (after 1999).

**Ref. Table 16: Korea, Overseas Securities Offerings by Type
(Millions of US dollars): 1985-1997**

	CB	BW	DR	EB	Total
1985	20.0	-	-		20.0
1986	60.0	-	-		60.0
1987	30.0	-	-		30.0
1988	30.0	-	-		30.0
1989	-	50.0	-		50.0
1990	180.0	70.0	40		290.0
1991	594.5	270. 0	200		1,064.5
1992	424.0	65.0	150		639.0
1993	538.0	50.0	328		916.0
1994	639.6	45.0	1,168		1,852.6
1995	751.5	213. 0	1,310		2,274.5
1996	1,496.1	43.8	963	84	2,586.9
1997	1,175.2	-	630	75	1,880.2

Source: Monthly Review of Securities, Securities Supervisory Board.

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Ref. Table 17: Korea, Turnover Rate on Corporate Bonds (100 Billions of Won, Percent): 1988-1999

	Trading Value			Outstanding Amounts	Turnover Rate
	OTC	Exchange	Total		
1988	47.1 (75.4)	15.4 (24.6)	62.5 (100.0)	118.9	0.26
1989	62.9 (89.1)	7.7 (10.9)	70.6 (100.0)	163.2	0.22
1990	99.3 (92.5)	8.0 (7.5)	107.3 (100.0)	222.3	0.24
1991	212.3 (96.8)	7.0 (3.2)	219.3 (100.0)	312.0	0.35
1992	326.1 (99.5)	1.5 (0.5)	327.6 (100.0)	358.4	0.46
1993	650.7 (100.0)	- (-)	650.7 (100.0)	397.7	0.82
1994	846.3 (98.7)	11.4 (1.3)	857.7 (100.0)	477.6	0.90
1995	1,212.5 (99.0)	11.8 (1.0)	1,224.3 (100.0)	610.2	1.00
1996	1,405.2 (99.2)	11.9 (0.8)	1,417.1 (100.0)	760.1	0.93
1997	1,595.8 (97.7)	38.1 (2.3)	1,633.9 (100.0)	901.1	0.91
1998	4,514.5 (98.1)	89.7 (1.9)	4,604.2 (100.0)	1,226.8	1.88
1999	5,161.1 (97.8)	116.9 (2.2)	5,278.0 (100.0)	1,196.2	2.21

Note: Turnover Rate = (Trading value/2) ÷ outstanding amounts.
Source: Securities, Korea Securities Dealers Association.

**Ref. Table 18: Korea, Investors in Corporate Bonds (100 Billions of Won, Percent):
1980-1999**

	Financial	Government	Corporate	Private	Foreign	Total
1980	14.2 (76.3)	0.4 (1.9)	2.1 (11.0)	2.0 (10.8)	- (-)	18.6 (100.0)
1981	24.1 (82.7)	0.8 (2.9)	2.8 (9.7)	1.4 (4.7)	- (-)	29.1 (100.0)
1982	39.5 (82.9)	0.9 (1.9)	3.5 (7.3)	3.8 (7.9)	- (-)	47.6 (100.0)
1983	53.8 (88.6)	1.7 (2.8)	3.3 (5.5)	1.9 (3.1)	- (-)	60.7 (100.0)
1984	64.5 (86.4)	1.8 (2.4)	6.2 (8.3)	2.2 (2.9)	- (-)	74.7 (100.0)
1985	83.3 (86.9)	1.8 (1.8)	7.3 (7.6)	3.4 (3.6)	- (-)	95.8 (100.0)
1986	103.4 (94.2)	2.6 (2.4)	2.7 (2.4)	1.2 (1.1)	- (-)	109.8 (100.0)
1987	117.2 (96.2)	1.1 (0.9)	2.3 (1.9)	1.3 (1.0)	- (-)	121.9 (100.0)
1988	132.0 (96.9)	1.2 (0.9)	1.9 (1.4)	1.0 (0.8)	- (-)	136.2 (100.0)
1989	177.2 (95.7)	1.2 (0.7)	4.3 (2.3)	2.4 (1.3)	- (-)	185.1 (100.0)
1990	264.6 (90.0)	3.4 (1.2)	16.7 (5.7)	9.5 (3.2)	- (-)	294.1 (100.0)
1991	363.8 (83.3)	5.4 (1.2)	45.7 (10.5)	21.8 (5.0)	- (-)	436.7 (100.0)
1992	449.3 (89.5)	7.3 (1.5)	33.1 (6.6)	12.4 (2.5)	- (-)	502.1 (100.0)
1993	544.4 (91.4)	12.4 (2.1)	29.5 (5.0)	9.1 (1.5)	- (-)	595.3 (100.0)
1994	650.0 (90.1)	13.8 (1.9)	42.2 (5.9)	15.0 (2.1)	0.2 (-)	721.3 (100.0)
1995	828.0 (94.6)	14.4 (1.6)	26.3 (3.0)	5.8 (0.7)	0.3 (-)	874.8 (100.0)
1996	1,000.5 (88.7)	33.4 (3.0)	65.0 (5.8)	28.4 (2.5)	0.5 (-)	1,127.8 (100.0)
1997	1,349.3 (89.7)	24.2 (1.6)	84.3 (5.6)	43.5 (2.9)	3.2 (0.2)	1,504.5 (100.0)
1998	2,250.4 (96.6)	47.8 (2.1)	18.7 (0.8)	9.3 (0.4)	3.4 (0.1)	2,329.7 (100.0)
1999	2,348.2 (92.0)	105.4 (4.1)	58.7 (2.3)	36.5 (1.4)	3.0 (0.1)	2,551.8 (100.0)

Note: 'Total' in this table is larger than that of ref. table 15 because of the following factors: 1. inclusion of privately placed bonds, 2. inclusion of ABS and 3. reclassification of certain public bond as corporate bonds.

Source: Flow of Funds, Bank of Korea.

Ref. Table 19: Korea, Bond Holdings of Investment Trust Companies (100 Billions of Won, Percent): 1984-1999

	ITC Holdings	Outstanding Bonds
1984	42.2 (44.5)	94.8
1985	51.8 (43.2)	120.0
1986	66.4 (38.8)	171.1
1987	91.4 (36.6)	250.0
1988	105.8 (31.4)	336.8
1989	130.8 (30.1)	434.9
1990	164.1 (32.1)	511.2
1991	182.7 (29.7)	614.8
1992	286.4 (44.0)	651.5
1993	388.8 (49.3)	789.3
1994	448.3 (43.7)	1,025.0
1995	484.3 (38.4)	1,260.0
1996	564.0 (32.1)	1,755.4
1997	642.3 (28.7)	2,241.1
1998	1,280.1 (38.3)	3,340.3
1999	999.8 (37.5)	2,664.2

Note: Numbers in () are ratios to outstanding balances;
 "Bonds" means bonds of all issuers.

Source: Investment Trust, Korea Investment Trust Companies Association; Monthly Bulletin, Bank of Korea.

Appendix II. Case of Malaysia

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1. Financing of the Malaysian Economy

1.1. Overview: Pre-crisis

Before the Crisis

Following a shift in public policy in the 1980s to promote the private sector as the engine of growth, a new financing pattern has emerged in Malaysia. As the economy has undergone a transformation, increased private sector financing has compensated for the decline in public sector borrowings. The private sector has relied on the banking system to provide this financing. The bond market as a source of financing came to prominence only in the second half of the 1990s.

The capital requirements to finance investment were equivalent to about 40% of Gross National Product (GNP). Much of this came from domestic sources because foreign borrowings were limited to financing of activities with potential for generating income and foreign exchange earnings. Thus, external debt remained stable at 43% as at the end of June 1997 and the debt service ratio was less than 6%.

Much of the financing was intermediated through the banking system—the ratio of bank credit to Gross Domestic Product (GDP) in Malaysia was high at 149% in 1997. Nevertheless, the ratio of bank deposits to GDP was also high at 154%; therefore, banks have been able to finance their lending operations from their own mobilisation of savings.

The private sector had initially not tapped the bond market for finance. In 1987, private debt securities (PDS) comprised only 0.5% of GDP. But the growth of PDS has been significant and its size increased to 26.5% of GDP by 1998, as shown in Table 1.

Table 1: Malaysia, Financing of the Economy (Millions of Ringgits): 1987-1998

Year	Loans from the Banking System	Private Debt Securities	Public
1987	70,057	395	54,796
1997	401,865	63,350	77,968
1998	394,421	75,403	93,047
1999 (June)	389,194	78,374	108,030
(% of GDP)			
1987	88.0	0.5	68.8
1997	142.6	22.5	27.7
1998	138.6	26.5	32.7
1999 (June)	130.2	26.2	36.1
Average Growth (%)			
1983-19 7	12.9	—	13.8
1988-19 7	19.1	66.2	3.6
1988-19 8	17.0	61.2	4.9

Source: Bank Negara Malaysia.

Manufacturing sector sourced its funding internally (Table 2). In 1999-2000, 80% of financing for the manufacturing sector came from domestic sources, with the rest coming from foreign funds. Internally generated funds formed 76% of financing while financial institutions supplied only 13%. The capital market, by contrast, has had a very small share of less than 2%.

Table 2: Malaysia, Sources of Financing for Manufacturing Companies (Percent): 1994-2000

	1994	1995	1996	1997	1998	1999/2000
Foreign Sources	15	22	20	16	14	20
Domestic Sources	85	78	80	84	86	80
Of which: Internal Funds	69	49	56	70	60	76
Financial Institutions	5	13	12	18	22	13
Parent Companies	15	13	15	5	10	9
Others	11	25	17	7	8	2

Source: Bank Negara Malaysia.

As a result of the privatisation policy introduced in 1991, the private sector is actively replacing the government in initiating infrastructure, utilities and construction projects, which mainly account for the demand for PDS. As these projects required large, long-term financing, the bond market was the appropriate channel through which to raise funds.

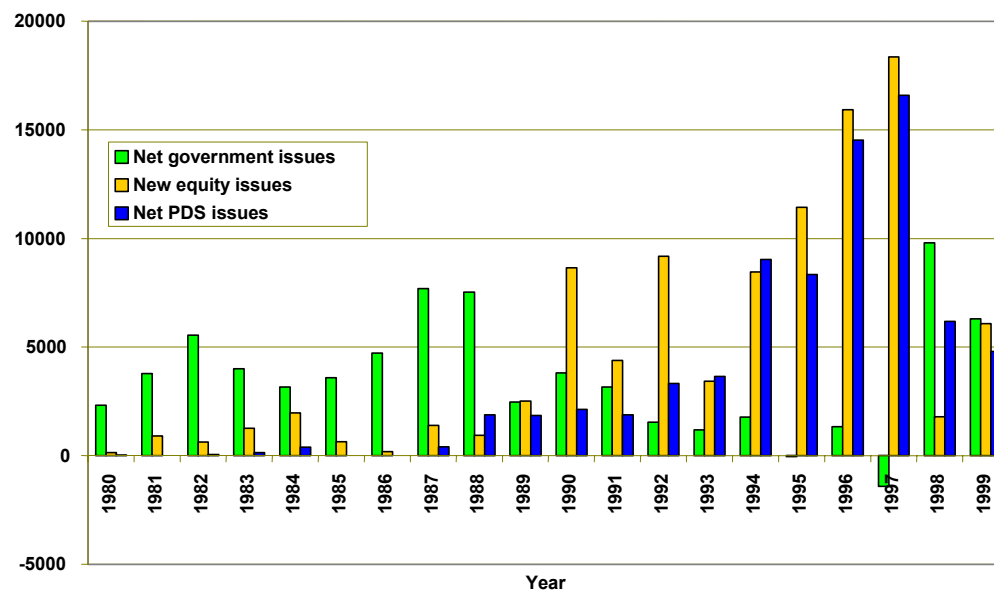
After the Crisis

As the banking sector was heavily exposed to the crisis, it came under some stress and bankers became cautious in extending new credits. In the post-crisis period, loan growth was low; for example in 1998 and 1999, it fell short of the target of 8% proposed by the government. Consequently, the private sector turned to the bond market to finance its activities or to restructure business. Although larger numbers of firms from the sector have sourced funds from the bond market in the post-crisis period, infrastructure and utilities companies still dominate the private bond market.

1.2. The Role of the Malaysian Capital Market

The capital market in Malaysia refers to the market in longer-term financial assets, comprising all public and private debt instruments with maturities exceeding one year, corporate stocks and shares for which there is no fixed maturity period, and commodity and financial futures. The capital market represented a relatively small subsector of the Malaysian financial sector during the early stages of economic development in the early 1960s and 1970s. However, it underwent a significant transformation in the late 1980s and the 1990s. Its rapid growth was facilitated by the strong development of market infrastructure, and a comprehensive regulatory and administrative framework. Chart 1 depicts the growth of the capital market in the last two decades.

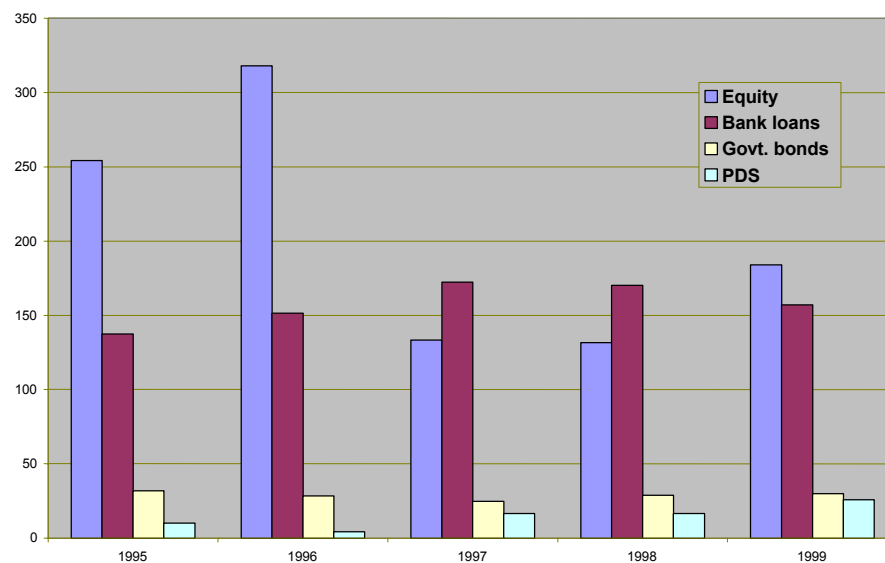
Chart 1: Malaysia, Growth of the Capital Market in Malaysia (Millions of Ringgits): 1980-1999



Source: Bank Negara Malaysia.

While the capital market has grown, bank loans, while remaining significant, have shown a slight downward trend. Chart 2 shows the outstanding amount of equity, bonds and bank loans in the Malaysian economy for 1995-1999.

Chart 2: Malaysia, Outstanding Amount of Equity, Bank loans, Government Bonds and PDS (Percent of GDP): 1995-1999



Source: Bank Negara Malaysia.

The emergence of the capital market as a major source of funds reflects the structural adjustments undertaken by the government in the middle of 1980s to consolidate its financial position and to enhance the role of the private sector as the main engine of growth. In the 1980s, the capital market expanded mainly to service the needs of the public sector, where the bulk of the new funds raised during the period was in the form of issuance of Malaysian Government Securities (MGS). Gross issuance of MGS rose from RM24 billion in 1981-1985 to RM31 billion in 1986-1990. The privatization policy precipitated a pronounced shift in the financing distribution pattern, from the government to the private sector. Hence, gross funds raised by the government via the issuance of MGS declined to RM22 billion in 1991-1997. The reduction was in line with government policy since the middle of 1980s to downsize its operations to enhance the private sector's role as the main engine of growth and also to strengthen the government's financial position.

The private sector emerged as the single largest mobilizer of funds, raising RM160 billion in 1987-1997 and accounting for 25% of total funds raised from the capital market. This was a reflection of the strong demand for funds by the private sector to finance economic activities as the economy grew rapidly after 1989. Of particular significance was the increased financing of large-scale industrial projects and infrastructure projects with long-gestation periods.

Conditions, however, worsened in 1998 and early 1999, but turned around from May 1999 onwards when the private sector resumed fundraising activities in response to the economic recovery in the second quarter. The share of the private sector in the capital market rose to 59.8% (RM48.6 billion) in 1998 and 1999.

Of the capital market instruments, equity remained more popular, reflecting the maturity of the equity market. Total funds raised in this market between 1988 and 1997 amounted to RM83.3 billion (13% of total financing). The increasingly higher amount of funds raised showed the growing preference of companies toward the equity market for financing. But funds raised through the issuance of new equity securities fell substantially (RM7.9 billion) in 1998 and 1999 due to the economic recession.

Between 1988 and 1997, the corporate bond or PDS market assumed increasing importance by mobilizing funds of RM77.5 billion (12% of total financing). The increased issuance of PDS signified the rapid development of the primary PDS market and was a positive result of efforts to develop the market, such as through the establishment of Cagamas Berhad and the Rating Agency Malaysia (RAM) Berhad. In 1998, the PDS market played an important role in financing the restructuring of the corporate and banking sector and, thereby, aided the economic recovery process. The need to minimize the contractionary effects of the crisis on the real sector and to further strengthen the financial system to promote economic recovery led to the establishment of Pengurusan Danaharta Nasional Berhad (Danaharta), Danamodal Nasional Berhad (Danamodal) and the Corporate Debt Restructuring Committee.

Danaharta, an asset management company, was set up as a pre-emptive measure to ensure that the level of nonperforming loans (NPLs) in the banking system remained manageable. Danaharta manages these loans in order to maximize their recovery value. It

also issues government-guaranteed zero coupon bonds and cash to financial institutions as payment for the purchase of NPLs. In 1998, funds mobilized through the PDS market exceeded (RM14.2 billion) those in the equity market (RM1.8 billion) mainly due to the issuance of RM11 billion by Danamodal to recapitalize banking institutions that were adversely affected by the crisis. The net funds raised via PDS stood at RM6.2 billion in 1998.

In 1999, the net funds raised, amounting to RM13.8 billion in the PDS market, increased due to a higher value of new PDS issues of RM26.6 billion (from RM14.2 billion in 1998). This was due to the much larger amount of redemptions, which reached a record level of RM12.7 billion in 1999 (from RM8 billion in 1998), arising from the maturity and early redemption of PDS issued. However, as in 1998, the largest amount of PDS issued was for debt restructuring schemes. Due to lower interest rates, ample liquidity, growing demand and economic recovery, a total of RM10.2 billion was issued against redemption of RM4.8 billion as of July 2000.

The pace of economic recovery has generated greater interest in the PDS market since the last quarter of 1999. Improved economic conditions and corporate debt restructuring exercises have ameliorated investors' sentiment and led to rating upgrades for a number of corporate issues. This has, in turn, encouraged the participation of first-time issuers. Interest rate stability has also been a boon to the debt market as investors seek higher investment returns rather than simply keeping their money in fixed deposits with banks. As a consequence, an expansion of the issuer base is likely to materialize as new instruments such as asset-backed securities are launched in response to the widening risk-return profile of the market. In addition, the announcement of various government initiatives to boost the development of the ringgit bond market, such as the setting up of the National Bond Market Committee and the Securities Commission (SC) as the sole regulatory authority for the corporate bond market will lead to a more vibrant debt market in the next few years.

In 1998 and 1999, the public sector once again emerged as the largest single issuer of debt paper, with the total value of government bonds issued exceeding that raised through the private sector. The government raised about RM25 billion in new MGS consisting of maturities ranging from three to 20 years. A total of RM6 billion of the new MGS was issued through private placement to the Employees Provident Fund (EPF). Until September 2000, a total of RM14.5 billion of MGS and Government Investment Certificates (GICs) were issued against redemption of RM3.6 billion. The large MGS issues were to finance the government's fiscal deficit as it took the lead in reviving the economy, which had contracted in the aftermath of the Asian financial crisis.

The role of the equity market has also increased in importance as a source of funding for the economy. Table 3 shows the increase in the amount of equities issued.

Table 3: Malaysia, Equity Raised in the Capital Market (Millions of Ringgits, Percent of GDP): 1990-1999

1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
8,650	4,391	9,182	3,433	8,458	11,438	15,924	18,358	1,788	6,073
(7.3%)	(3.3%)	(6.1%)	(2.0%)	(4.3%)	(5.1%)	(6.3%)	(6.5%)	(0.6%)	(2.0%)

Note: () indicates percentage of GDP.

Source: Bank Negara Malaysia.

1.3. Loans and Advances by the Financial System

Overall, much of the financing was intermediated through the banking system. As a result, the risks associated with the cyclical downturn in the economy were concentrated there. However, loans and advances extended by the financial system amounted to RM98.3 billion (53%) of the total financing during 1988-1997. This impressive volume reflected the rapid economic growth experienced by Malaysia during this time. Nevertheless, the financial crisis, which started in middle of 1997, led to a sharp moderation in loan growth, with none recorded in 1998. The share of financing from the banking system also declined to 8% during 1998-1999. Table 4 shows the growth of bank loans in the last 10 years.

Table 4: Malaysia, Outstanding Bank Loans (Millions of Ringgits, Percent of GDP): 1990-1999

1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
115,932	140,704	153,608	209,802	242,498	305,751	384,261	485,616	484,333	471,858
(97.4%)	(104.1%)	(101.9%)	(121.8%)	(124.1%)	(137.4%)	(151.4%)	(172.3%)	(170.3%)	(157.1%)

Note: () indicates percentage of GDP.

Source: Bank Negara Malaysia.

2. The Government Bond Market

2.1. Overview of the Bond Market: Pre-crisis

In 1988, the outstanding value of debt securities stood at RM59.1 billion (68% of GDP). The PDS market (inclusive of Cagamas bonds) accounted for about 4% of the total debt. Government securities remained the largest segment at 96%, with MGS accounting for about 98% of the total government securities market (Chart 3). Over time, this has changed significantly in tandem with the shift in the country's financing structure and also government policy. The growth of the bond market has been impressive, registering an average annual growth rate of 10% during 1988-1997. The total outstanding value of bonds was RM134.3 billion at the end of 1997. The share of PDS also increased significantly to 47% of total market size. However, the share of government securities dropped to 53% (Table 5).

Table 5: Malaysia, Outstanding Debt Securities Issued (Millions of Ringgits, End of Period): 1990-1999

Year	MGS	GICs	Malaysian		Khazanah Bonds	Total Govt. Bonds	Danaharta Bonds	Danamo- dal Bonds	Cagamas Bonds	Other PDS	Total PDS	Total Bonds
			Savings Bonds	Bonds								
1990	62,106	900	-	-	-	67,326	-	-	2,900	2,980	5,880	73,206
1991	65,263	900	-	-	-	70,483	-	-	2,600	4,503	7,103	77,586
1992	66,643	1,000	-	-	-	71,963	-	-	5,137	6,436	11,573	83,536
1993	66,018	2,000	-	-	-	72,338	-	-	5,940	9,299	15,239	87,577
1994	64,969	4,800	-	-	-	74,089	-	-	9,485	12,459	21,944	96,033
1995	64,719	5,050	1,131	-	-	70,900	-	-	9,312	22,701	32,013	102,913
1996	66,910	4,150	1,092	-	-	72,152	-	-	13,227	33,528	46,755	118,907
1997	66,262	2,750	918	1,000	-	70,930	-	-	16,756	46,594	63,350	134,280
1998	75,012	2,000	4	4,850	-	81,866	2,601	11,000	15,064	46,737	75,402	157,268
1999	78,336	2,000	379	8,980	-	89,695	10,344	11,000	13,019	77,413	111,776	201,471
Total	676,238	25,550	3,524	14,830	-	741,742	12,945	22,000	93,440	262,650	391,035	1,132,777

Note: Public debt securities refers to MGS, GICs, Khazanah bonds and Malaysia savings bonds. Total PDS refers to Cagamas bonds, Danamodal bonds, Danaharta bonds and other PDS.

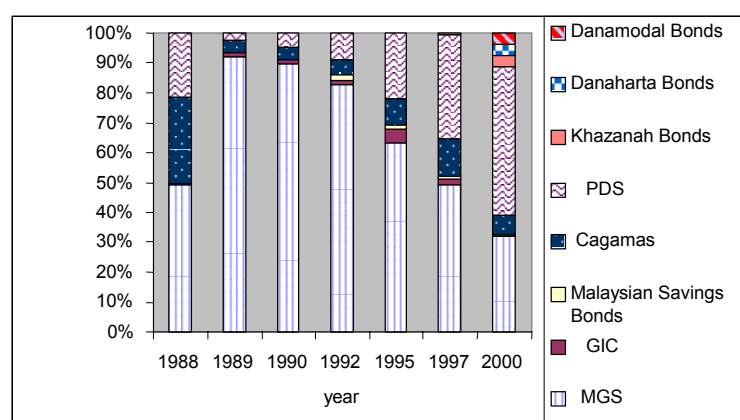
Source: Bank Negara Malaysia: Securities Commission.

After the Crisis

The size of the Malaysian bond market surged to RM241.7 billion (71.2% of GDP) in 2000 from RM157.3 billion (58% of GDP) in 1998. Outstanding PDS issued were relatively larger at 58% of outstanding bond issues including government bonds and PDS at the end of 2000, compared with government securities at 42%. The significant growth in the PDS market can be attributed to ongoing corporate debt restructuring activities and also the large demand for financing from private corporations.

The issuer base has also expanded to include new issuers from quasi-government agencies such as Danaharta and Danamodal. Quasi-government bonds accounted for about 9% of the total bonds outstanding issued in 1998 and 2000.

Chart 3: Malaysia, Composition of the Bond Market (Percent): 1988-2000



2.2. Overview of the Government Bond Market

Government bonds are issued either directly by the government or by government-related institutions. Government bonds include MGS, GICs and Malaysian savings bonds (MSBs). MGS or Treasury bonds are debt instruments issued by Bank Negara Malaysia (BNM) on behalf of the government as a means of raising long-term funds from the domestic capital market to finance public expenditure.

GICs, which are non-interest bearing securities, were introduced in 1983 following the introduction of Islamic banking in Malaysia and are issued to Bank Islam and other Islamic-based institutions for their liquidity and statutory requirements based on Islamic principles. In an effort to inculcate and promote a savings culture and to educate the public on investing in bonds, the first series of MSBs, RM1 billion of five-year tenure, was introduced in 1993. Incentives offered included a guaranteed return of 48% on maturity, tax-exempt returns and no limit on the amount purchased.

Quasi-government bonds refer to bonds such as, Khazanah bonds, Kuala Lumpur International Airport bonds, Danaharta bonds and Danamodal bonds.¹

Until the middle of 1950s, the government domestic debt market was insignificant. There was little need to borrow as the government generally kept the overall account of its budget in balance, reflecting the pro-cyclical stance of fiscal policy. The issue of MGS began mostly to meet the investment needs of the EPF, which was set up in 1951. The outstanding amount of MGS initially was small, reaching only RM120 million by the end of 1961. The government continued to rely on issuing bonds for the bulk of its domestic borrowings when it needed massive investment funds to finance the country's development agenda, which was premised on economic diversification and industrialization. In the late 1970s and early 1980s, MGS were floated mainly to finance the rising level of public development expenditure and fiscal deficit. As a result, the amount of MGS issued increased steadily, from RM4.9 billion in 1971-1975 to RM12.3 billion in 1976-1980 and RM24 billion in 1981-1985. Table 6 indicates the amount of government debt securities issued in the decade beginning 1990. Table 7 shows the amount of outstanding public debt securities issued for 1990-1999.

Table 6: Malaysia, Government Debt Securities Issued (Millions of Ringgits, Percent of GDP): 1990-1999

1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
5,441	3,800	4,300	3,748	5,500	2,750	6,000	3,794	17,682	14,975
(4.6%)	(2.8%)	(2.9%)	(2.2%)	(2.8%)	(1.2%)	(2.4%)	(1.4%)	(6.2%)	(5.0%)

Note: Government debt securities include Malaysian government debt securities, GICs, Khazanah bonds and MSBs.

Source: Bank Negara Malaysia.

¹ The investment arm of the Ministry of Finance. Khazanah benchmark bonds are government-guaranteed, zero coupon bonds structured to comply with Islamic principles. They were first issued in September 1997 with a first RM1 billion three-year tenure issue. Since this first issue, nine issues with maturity terms of three, five, seven and 10 years have been issued, totaling RM10 billion in nominal value.

Table 7: Malaysia, Government Debt Securities (Millions of Ringgits, Percent of GDP): 1990-1999

1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
63,006	66,163	69,046	69,291	70,946	70,900	72,152	69,930	81,866	89,695
(52.9%)	(48.9%)	(45.8%)	(40.2%)	(36.3%)	(31.9%)	(28.4%)	(24.8%)	(28.8%)	(29.9%)

Note: Government debt securities include Malaysian government debt securities, GICs, Khazanah bonds and MSBs.

Source: Bank Negara Malaysia.

The MGS market expanded nearly five-fold to RM16.8 billion by the end of 1980, compared with only RM3.5 billion in 1970. After that, the MGS market expanded steadily to RM55.8 billion at the end of 1988. However, due to the downsizing of the government's borrowing program, net issuance of MGS dropped to RM9.6 billion during 1991-1997 against RM25.5 billion in 1986-1990. Hence, total MGS outstanding issued rose marginally to RM66.3 billion in 1997 against RM62 billion in 1990. MGS have remained the largest component of the government securities market over the last three decades (Table 8).

Table 8: Malaysia, Components of Government Debt Securities (Millions of Ringgits): 1995-1999

Year	MGS	Government Investment Issues	Malaysian Savings Bonds	Khazanah Bonds	Total Government Bonds
1995	64,719	5,050	1,131	–	70,900
1996	66,910	4,150	1,092	–	72,152
1997	66,262	2,750	918	1,000	70,930
1998	75,012	2,000	4	4,850	81,866
1999	78,336	2,000	379	8,980	89,695
Total	351,238	15,950	3,524	14,830	385,542

Source: Bank Negara Malaysia.

Table 9 shows the share of outstanding government debt securities issued as a percentage of all outstanding bonds issued in the domestic market.

The situation improved in 1998 with the increased issuance of MGS to finance the government's fiscal deficit as it promoted economic revival, after a contraction in the aftermath of the Asian financial crisis. New MGS issues increased from RM8.8 billion in 1998 to RM11.1 billion (a total of RM23.2 billion of MGS was issued for the period 1998-2000). The second series of MSB were launched in 1999 and RM2 billion in three-year tenure bonds was offered for sale.

Table 9: Malaysia, Components of Outstanding Government Debt Securities Issued (Percent): 1995-1999

Year	MGS	Government Investment Issues	Malaysian Savings Bonds	Khazanah Bonds	Total Government Bonds
1995	62.9	4.9	1.1	0.0	68.9
1996	56.3	3.5	0.9	0.0	60.7
1997	49.3	2.1	0.7	0.7	52.8
1998	47.7	1.3	0.0	3.1	52.1
1999	38.9	1.0	0.2	4.5	44.5
Total	49.1	2.2	0.5	2.1	53.9

Source: Bank Negara Malaysia.

2.3. Investor Base for MGS

The demand for MGS is captive to the extent that certain classes of investors have been and are required to hold them by statutory requirement. Investors are required by law to invest a specified portion of their funds in MGS, or to invest a specified portion of liquid assets in their asset portfolios.

MGS are classified as eligible liquid assets of commercial and merchant banks and finance companies. MGS were also made a “trustee” investment for social security institutions under the provision of the Trustee Act, 1949. When the Insurance Act, 1963, was implemented, MGS were made eligible as “authorized” assets for the insurance companies to hold in meeting their minimum assets requirement.

Social security institutions, the traditional holders, continued to absorb the major portion of outstanding MGS issued. The EPF remained the single largest holder, with a market share of 58-61% of total outstanding MGS issued before the crisis. The new EPF Act, 1991, permits the EPF to invest a minimum of 50% of its annual investible funds in MGS, compared with 70% previously, although it is still subject to a cumulative ceiling of 70%. Only 33% of EPF’s investible funds currently are held in MGS. But its holding of total outstanding MGS issued has increased to 66-68% following three new placements totaling RM8 billion by the government (Table 10, Table 11).

The dominant position of the pension and provident funds in the MGS market poses a constraint to the development of a liquid and competitive bond market and, hence, benchmark yield curves. This concern relates not only to the sizeable volume that is held by them but also to the high concentration, which increases the possibility of market squeezes, thereby deterring other participants from entering the market.

Before the crisis banking institutions remained the second largest holders, accounting for 13-19% of MGS outstanding issued. MGS are classified as eligible liquid assets of commercial and merchant banks, and finance companies, and as such a major portion of the supply is held long-term in the portfolios of these institutions. Their large holdings are also due to their role as principle dealers, as they are obliged to take up new issues of MGS, as

well as the excess liquidity situation prevailing in the banking system. After the crisis, banking institutions' holdings of MGS increased to 16-20%.

Other financial institutions, including the National Savings Bank and insurance companies, which are also required by law to invest a specified portion of their funds in government securities and other approved assets, collectively held about 5% to 12% of the total outstanding. Holdings of MGS by insurance companies constituted about 2% to 8%, partly due to the amendments made to their statutory investment guidelines on 1 October 1990, whereby newly acquired government guaranteed loans will no longer qualify as investment in MGS. Their holding of MGS remained at 10% to 12% after the financial crisis.

Holdings of MGS by BNM remained negligible, as it did not resort to deficit financing. The remaining 6% was held by a variety of other institutions, including Petronas, the government itself in the form of sinking funds and public authorities.

Table 10: Malaysia, Investors in Malaysian Government Securities (Percent): 1990-1999

Year	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Total Outstanding (Millions of Ringgits)	62,106	65,263	66,643	66,018	64,969	64,719	66,910	66,262	75,012	78,336
Government	1.0%	0.9%	0.8%	0.9%	0.8%	0.8%	0.6%	0.6%	0.2%	0.2%
Others	8.2%	8.0%	7.0%	7.1%	6.8%	6.7%	6.4%	5.8%	5.3%	4.8%
Total Public Sector	9.2%	8.9%	7.9%	8.0%	7.5%	7.5%	7.0%	6.5%	5.5%	5.1%
EPF	58.2%	58.6%	59.5%	59.5%	62.0%	60.5%	57.9%	57.5%	60.9%	66.1%
SOCISO	2.2%	2.1%	2.4%	2.4%	2.5%	2.6%	2.7%	2.4%	1.9%	2.2%
Others	2.3%	2.9%	4.3%	5.7%	6.2%	7.9%	8.1%	7.9%	7.1%	7.7%
Total Social Security Institutions	62.6%	63.7%	66.2%	67.6%	70.7%	71.0%	68.8%	67.8%	69.9%	75.9%
Insurance Companies	2.3%	2.9%	4.3%	5.7%	6.2%	7.9%	8.1%	7.9%	7.1%	7.7%
BNM	3.5%	1.9%	0.5%	0.6%	0.2%	0.2%	0.3%	0.2%	0.2%	0.1%
Banking Institutions	18.1%	19.1%	19.1%	17.1%	12.7%	13.3%	17.0%	19.1%	20.4%	15.7%
BSN	2.6%	2.5%	2.8%	3.2%	3.3%	3.3%	3.1%	2.1%	1.6%	1.2%
Others	3.0%	3.1%	3.0%	2.6%	0.9%	0.8%	0.6%	1.0%	1.0%	0.9%
Total Financial Sector	27.2%	26.6%	25.3%	23.4%	17.1%	17.5%	20.9%	22.4%	23.1%	17.9%
Foreign Holders	0.03%	0.03%	0.03%	0.3%	4.0%	3.3%	2.6%	2.6%	0.8%	0.5%

Source: Bank Negara Malaysia.

Table 11: Malaysia, Investors in Malaysian Government Securities (Millions of Ringgits): 1990-1999

Investor Type	1995	1996	1997	1998	1999	2000 (p)	Total	Percent of Total
General Government	494	419	418	177	191	191	1,890	0.4%
EPF	39,150	38,754	38,068	45,670	51,757	60,379	273,778	62.2%
SOCSSO	1,682	1,821	1,606	1,485	1,683	2,248	10,525	2.4%
Insurance Companies	5,128	5,447	5,256	5,307	6,030	6,833	34,001	7.7%
Bank Negara Malaysia	100	176	154	131	90	88	739	0.2%
Banking Institutions	8,619	11,366	12,650	15,289	12,313	13,126	73,363	16.7%
National Savings Bank	2,101	2,045	1,377	1,190	909	1,014	8,636	2.0%
Foreign Holders	2,111	1,712	1,737	596	387	225	6,768	1.5%
Others	5,334	5,170	4,996	5,167	4,976	5,181	30,824	7.0%
Total	64,719	66,910	66,262	75,012	78,336	89,285	440,524	100.0%

Source: Bank Negara Malaysia

2.4. Maturity Profile

Reflecting the government's efforts to promote an active secondary market in MGS following financial reforms in 1989, the maturity profile of total MGS outstanding shifted to shorter-term securities. The share of outstanding MGS issued with maturities of up to 10 years rose from 21.5% in 1990 to 28.4% in 1997. Long-term MGS with original maturities of more than 10 years continued to dominate the market, although their share declined from 78% in 1995 to 72% in 1997 (Table 12 and Table 13).

Table 12: Malaysia, Maturity Structure of Outstanding MGS Issued (Billions of Ringgits): 1995-2000

Year	2 to 3 Years	4 to 5 Years	6 to 10 Years	11 to 15 Years	Above 15 Years	Total
1995	1	2	11	14	37	65
1996	1	4	14	13	35	67
1997	1	6	12	13	35	67
1998	2	7	15	15	37	76
1999	4	9	16	15	36	80
2000	7	12	24	12	34	89

Source: Securities Commission Capital Market Master Plan Appendix.

Table 13: Malaysia, Maturity Structure of Outstanding MGS Issued (Percent): 1995-2000

Year	2 to 3 Years	4 to 5 Years	6 to 10 Years	11 to 15 Years	Above 15 Years	Total
1995	1.5	3.1	16.9	21.5	56.9	100.0
1996	1.5	6.0	20.9	19.4	52.2	100.0
1997	1.5	9.0	17.9	19.4	52.2	100.0
1998	2.6	9.2	19.7	19.7	48.7	100.0
1999	5.0	11.3	20.0	18.8	45.0	100.0
2000	7.9	13.5	27.0	13.5	38.2	100.0

Source: Securities Commission Capital Market Master Plan Appendix.

The share of outstanding MGS issued with maturities of up to 10 years rose from 32% in 1998 to 48% in 2000. The share of long-term securities, however, declined from 68.4% in 1998 to 52% in 2000.

2.5. Issuance Process

Prior to financial reforms in January 1989, MGS were issued at par and open to the public for subscription, with the coupon rates determined by the government. Following the reforms, a system of principal dealers (PDs) was set up for MGS and Cagamas bonds. The PDs are required to bid at auctions of all primary issues of MGS of maturities up to 10 years, with each of them bidding for not less than 10% of each issue. However, institutions and individuals wishing to purchase MGS from primary issues would have to apply through the PDs or purchase them in the secondary market. All primary dealers are required to quote a two-way price for bonds within a 15-sen spread. The coupons of the tendered portion of MGS issues are determined based on the weighted average yield of the successful bids of the auction. For MGS with an original maturity exceeding 10 years, the bonds are issued at predetermined coupons and sold at par value to selected institutional investors-namely, the EPF and the National Savings Bank.

Historically, MGS were issued at least three times a year. However, starting from 1993, the annual frequency and size of the MGS issues were determined by the size of the federal government budget deficit for the particular year. There was only one new issue in each of 1993, 1994 and 1995. BNM announced the date of the MGS auction usually one to two weeks in advance, specifying the details of the issue, such as the size and tenure. A pre-announced auction calendar for MGS was introduced in March 2000 (Table 14). Details of the new MGS to be issued for the whole year will be notified in advance to market participants. This is to enhance transparency and help in the formulation of investors' strategies.

Table 14: Malaysia, MGS Auction Calendar for 2000

MGS	Target Month	Issue Date	Millions of Ringgits
3 Year New Issue of MGS	First	31 March 2000	3,500
5 Year Reopening of MGS 1/94	Second	28 April 2000	3,000
10 Year Reopening of MGS 4/99	Second	30 June 2000	3,000
3 Year Reopening of MGS 1/00	Third	29 September 2000	5,000
10 Year Reopening of MGS 4/99	Fourth	1 December 2000	1,500

Source: Bank Negara Malaysia.

2.6. Market Infrastructure

Before the crisis, almost all government debt securities are traded on the over-the-counter (OTC) market. The central bank introduced a computerized scripless trading system known as SPEEDS (Sistem Pemindahan Elektronik untuk Dana dan Sekuriti) to facilitate a faster and more efficient system of trading, registration and settlement of government securities. SPEEDS comprised two components: the Scripless Securities Trading System (SSTS) and the Interbank Funds Transfer System (IFTS). The IFTS was launched on 15 December 1989, enabling interbank fund transfers and settlement to take place within a system that had built-in security features and where all settlements took place automatically at the end of each business day.

The SSTS was launched on 2 January 1990 as an on-line book entry system for MGS, Treasury bills, Cagamas papers and Bank Negara bills, in order to minimize the danger of loss, theft, destruction and counterfeiting of scrips, and to enable the system to handle a much larger volume of transactions. It was also designed to eliminate the delivery delays inherent in the previous system of paper certificates of ownership and to eliminate the consequential timing differences in the settlement of trades. To improve the process and enhance secondary market trading, BNM made it a requirement that all unlisted PDS must be issued scripless, with clearing and settlement executed electronically via SPEEDS, which was then enhanced to act as the Central Depository and Paying Agency for all unlisted PDS.

In addition, the central bank established the Trading Practices and Market Development Committee in 1990, as provided for in the Code of Conduct and Market Practices for Scripless Trading in the Malaysian securities market. Generally, the Committee acts as a consultative and advisory body to guide the development of the scripless securities market. The code sets out in detail the code of conduct and market practices, and the associated clearing and settlement procedures for scripless trading in the Malaysian securities market. Subsequently, in 1994, the conduct of market participants in the wholesale and foreign exchange markets was formalized through the publication of the Malaysian Code of Conduct for Principals and Brokers in the Wholesale Money and Foreign Exchange Markets. This code governs the conduct of all participants in the wholesale markets in order to maintain the highest levels of professionalism and to protect the credibility of oral contracts.

In September 1996, BNM introduced the Fully Automated System for Tendering (FAST) in order to improve the overall efficiency of the tendering process for Treasury bills, MGS, Bank Negara bills, Cagamas debt securities and PDS.

In the post-crisis period, the Bond Information and Dissemination System (BIDS) was set up in October 1997 to collate information on outstanding bonds in the market and disseminate it to market participants. In July 1999, in an effort to minimize-if not eliminate-the settlement risk in securities transactions, SPEEDS was replaced by the Real Time Electronic Transfer of Funds and Securities (RENTAS) System. The RENTAS is a real-time gross settlement system, which enables real-time delivery against payment for electronic book entry settlements.

2.7. Secondary Market for MGS

The monthly average for MGS almost tripled from RM321 million in 1995 to RM951 million in 1997. Despite this rapid growth of the MGS primary market, secondary market trading remained low due to the holding bias created by legal provisions required for provident and pension funds and financial institutions to invest a minimum proportion of their funds in such securities. The stable and regulated rates of interest payable on MGS prior to 1990 and their limited supply also discouraged the development of an active secondary market.

Since 1998, trading in the secondary market for MGS has improved significantly. Some RM33.1 billion of MGS was traded in 1998, rising to RM63.8 billion in 1999 (41%) and RM89 billion (35%) in 2000 (Table 15). The monthly average for MGS increased from RM1.1 billion in 1995-1997 to RM4.8 billion for 1998-2000. The sharp increase in trading volume after the crisis was due mainly to lower interest rates, ample liquidity, larger issue sizes, and regular supply of MGS and liberalization of compliance requirements for institutional investors.

Table 15: Malaysia, Turnover for MGS (Millions of Ringgits): 1995-2000

Year	1995	1996	1997	1998	1999	2000
Turnover of MGS	3,846	25,373	12,367	33,085	63,838	83,058
MGS Outstanding	64,719	66,910	66,262	75,012	78,336	89,285
Average Monthly Turnover	320	1,952	951	2,545	4,911	6,921
Turnover Ratio (%)	5.9	37.9	18.7	44.1	81.5	93.0

Source: Bond Information and Dissemination System (BIDS); Bank Negara Malaysia, 1999 Annual Report.

Generally, the secondary market for MGS demonstrated certain patterns in the volumes traded, with those periods of exaggerated activity falling into a set pattern as follows:

1. In the two months or so following a primary issue of MGS (not reserved for the EPF) there would be active trading among those with excess holdings and those looking to buy.
2. Activity also tended to pick up when an increase (or decrease) in statutory reserves was announced, in anticipation of firmer interest rates (and lower prices).
3. Higher volumes were recorded at times of rate declines (and price increases). It is a phenomenon of this market that dealers are more inclined to sell (and buy) paper only when there is profit to be made.
4. A large amount of the trading that does exist is restricted to the same basket of MGS being passed around, either because of limited supply or as a result of PDs fulfilling minimal requirements to quote two-way prices.

The secondary market for MGS has remained relatively underdeveloped, although some trading does take place, especially in paper nearing maturity. In the absence of an active and liquid secondary market, it would be difficult to separate the problem of determining the risk-free interest rate from the problem of pricing credit risk, which in turn curbed the level of issuing and trading activity in PDS (Table 16, Table 17, and Table 18).

Table 16: Malaysia, Annual Turnover of Government Bonds for MGS and Khazanah Bonds (Millions of Ringgits): 1995-2000

Bonds	1995	1996	1997	1998	1999	2000 (p)
MGS	3,846	25,373	12,367	33,085	63,838	83,058
Khazanah	–	–	206	5,013	16,098	14,579
Total	3,846	25,373	12,573	38,097	79,936	97,637

Note: (p) denote preliminary.

Source: BIDS; Bank Negara Malaysia, 1999 Annual Report.

Table 17: Malaysia, Turnover Ratios of MGS (Millions of Ringgit): 1995-2000

	1995	1996	1997	1998	1999	2000
Turnover of MGS	3,846	25,373	12,367	33,085	63,838	83,058
Outstanding MGS	64,719	66,910	66,262	75,012	78,336	89,285
Turnover Ratio for MGS	5.9%	37.9%	18.7%	44.1%	81.5%	93.0%

Source: BIDS; Bank Negara Malaysia, 1999 Annual Report.

Table 18: Malaysia, Share of Annual Turnover for MGS and Khazanah Bonds (Percent): 1995-2000

Bonds	1995	1996	1997	1998	1999	2000 (p)
MGS	100.0	100.0	98.4	86.8	79.9	85.1
Khazanah	0.0	0.0	1.6	13.2	20.1	14.9
Total	100.0	100.0	100.0	100.0	100.0	100.0

Note: Government bonds traded OTC only; BIDS was put in place only in October 1997. For 1995 to 1997, the turnover values are estimates taken from the RAM Bond Newsletter, January 2000, Table 6B. 3. p denotes preliminary.

Source: BIDS, Bank Negara Malaysia, 1999 Annual Report.

2.8. MGS as Benchmark Yield Curve

There was previously an absence of a reliable and efficient benchmark yield curve, so corporate bond issues in Malaysia were mostly priced with reference to the yields of other actively traded corporate bond issues with similar credit rating or near sovereign issues with similar maturity. Due to the absence of competitive forces and an efficient structure in pricing the corporate bonds, there was reluctance among Malaysian corporations to tap the bond market for funding.

Therefore, the government resorted to the MGS market to establish a benchmark yield curve after the crisis. The measures implemented thus far, include:

- Sizeable reopening of existing MGS issues;
- Introduction of a pre-announced auction calendar issuance program for MGS; and
- Emphasis on secondary market performance among PDs as imposed by the Central Bank.

These have yielded positive results towards establishing a reliable benchmark yield curve for the bond market. Following this, there has been increasing reliance among market participants on pricing corporate bond issues based on a spread above the relevant benchmark MGS issue (Chart 4, Table 19).

Chart 4: Malaysia, MGS Yields Curves

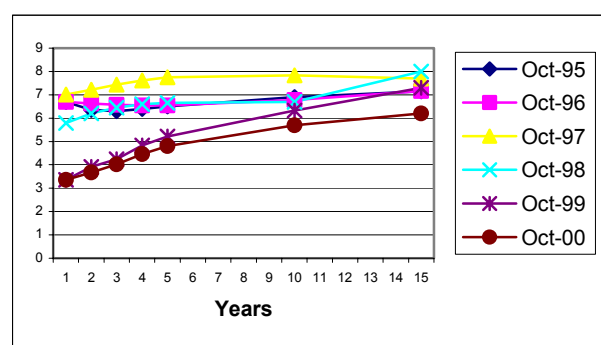


Table 19: Malaysia, Market Indicative Yield for MGS (Percent): 1995-2000

Remaining Years to Maturity	1	2	3	4	5	10	15	20
1995	6.7	6.4	6.3	6.4	6.5	6.9	7.2	7.4
1996	6.7	6.6	6.6	6.6	6.6	6.8	7.2	7.5
1997	7.0	7.2	7.4	7.6	7.7	7.8	7.7	
1998	5.8	6.2	6.4	6.6	6.7	6.7	8.0	
1999	3.4	3.9	4.2	4.8	5.2	6.3	7.3	
2000	3.4	3.7	4.0	4.5	4.8	5.7	6.2	

Source: Bank Negara Malaysia Websites, Table V.5.

3. Private Debt Securities Market

3.1. Overview

Prior to 1987, most capital financing needs were provided by the traditional banking system and equity market, hence the issuance of debt securities by the private sector was a rare event. The outstanding amount of PDS (including Cagamas bonds) at the end of 1987 amounted to only RM395 million (0.5% of GDP). In contrast, the other capital markets, i.e., the equity and MGS markets, had already developed to a reasonable level of sophistication and maturity. The market capitalisation of the Kuala Lumpur Stock Exchange (KLSE) and the outstanding amount of MGS at the end of 1987 stood at RM73.8 billion (91% of GDP) and RM48.8 billion (60.2% of GDP), respectively.

The impetus for the emergence of a PDS market can be attributed to the fundamental decisions made during the period of structural adjustments in the middle of 1980s. The key element was the promotion of the role of private initiative and encouragement of risk taking. As a consequence, the private sector has replaced the government as the main engine of growth. As the investment needs of the economy expand, the demand for increasingly more diverse avenues and forms of financing from the capital market will also rise. Thus, the focus turned to the PDS market in order to complement the more mature and sophisticated markets in equities and government securities.

As a first step to promoting the development of a viable and liquid PDS market, the national mortgage corporation, Cagamas Berhad, was set up in December 1996. Cagamas functions as an intermediary between primary lenders of housing loans and investors who would invest in mortgage bonds. It plays the role of an issuer of mortgage securities, more commonly referred to as “Cagamas notes and bonds.” Until December 2000, Cagamas was by far the largest single issuer of PDS in Malaysia, reaching an outstanding value of RM17.3 billion, and one of the most successful for the following reasons:

- The stature of the organisational set-up enables it to raise funds at low yields enabling Cagamas to purchase housing loans at competitive prices;
- BNM recognizes Cagamas bonds as liquid assets for the purposes of statutory reserve requirements;
- Proceeds from the sale of housing loans by financial institutions are permitted by BNM to be free from statutory reserve requirements. This lowers the cost of funds for financial institutions; and
- Stamp duty exemptions given on Cagamas bonds lowers transaction costs.

In 1988, BNM issued Guidelines on the Issue of PDS, to clarify the basic legal and administrative framework for bond financing. Prior approval from BNM has to be sought for all issuance of PDS. This enables BNM to ensure that the issuance of PDS is consistent with monetary and financial policies. The issuance of PDS required the approval of both BNM and the SC. Additional approval from the Registrar of Companies was necessary where a public offer was involved. The regulatory approval approach for bond proposals

was also merit based. The whole process could take up to six to nine months to complete, which discouraged many corporations from accessing the PDS market.

The first domestic rating agency, RAM, was incorporated in November 1990. Starting in 1992, only the issuance of bonds rated by RAM with at least BBB grade for long-term paper and P3 for short-term paper was given regulatory approval by BNM. SC also imposed similar mandatory rating requirements on the issuance of PDS. RAM was the sole provider of credit rating services in Malaysia until September 1996 when a second rating agency, Malaysian Rating Corporation Berhad (MARC), commenced operations. Starting July 2000, the SC waived the investment grade rating requirement for all new PDS issues.

Several fiscal measures were also implemented to promote the development of the PDS market, including the following:

- The waiver of stamp duty for PDS issuance and transfer (January 1989);
- With effect from 1992, interest income earned from bonds issued by public listed companies is exempt from income tax for individuals; and from 1993, the tax exemption was extended to bonds issued by non-listed companies but rated by RAM or MARC;
- Withholding tax for foreign investors on interest earned was reduced from 20% to 15% (October 1994); and
- Tax exemption was granted on interest income received by unit trusts and listed closed-end funds from corporate bonds (other than convertible loan stock).

3.2. Instrument Profile

There are several instruments available in Malaysia's domestic bond market. These instruments can be broadly classified as CP, revolving underwritten facilities (RUFs), notes issuance facilities (NIFs), straight or conventional bonds, convertible bonds, bonds with warrants and Islamic bonds. The main differences between all these instruments would be the tenure, the interest payment and principal repayment (Table 20).

Table 20: Malaysia, Corporate Bonds Issued Domestically (Millions of Ringgits): 1995-2000

Debt Securities	1995	1996	1997	1998	1999	2000
Straight Bonds	3,930	2,675	4,209	10,238	18,182	12,940
Bonds with Warrants	3,608	5,564	2,950	150	947	–
Convertible Bonds	863	1,795	2,019	99	1,269	1,944
Islamic Bonds	800	2,350	5,250	345	1,734	7,666
Cagamas Bonds	3,022	4,665	5,169	3,320	4,425	8,547
New Issues of Debt Securities	12,223	17,049	19,597	14,152	26,558	31,097
Less: Redemptions						
Private Debt Securities	1,249	1,765	1,369	2,964	6,279	6,205
Cagamas Bonds	2,635	750	1,640	5,012	6,470	4,254
Net Issues of Debt Securities	8,339	14,534	16,588	6,175	13,808	20,638

Source: Bank Negara Monthly Statistics, December 2000.

3.3. Maturity Profile

The tenure is broadly classified as short term (between two and five years), medium or intermediate (six and 10 years) and long term (11 years and above). The most common tenure is four to five years, having a market share of 55.6% in 1995-1997. PDS with tenure of six to 10 years comprised about 18.7%, while longer term PDS constituted about 26.8%.

The share of PDS with tenure of four to five years dropped to 13.2% in 1998-2000. However, the share with tenure of six to 10 years increased to 61.2% while longer-term PDS constituted about 25% (Table 21 and Table 22).

Table 21: Malaysia, Maturity Structure of Outstanding PDS Issued (Millions of Ringgits): 1995-2000

Year	2 to 3 Years	4 to 5 Years	6 to 10 Years	11 to 15 Years	Above 15 Years	Total
1995	–	2,466	400	–	1,600	4,466
1996	–	5,711	106	–	2,750	8,567
1997	–	3,987	4,072	808	–	8,867
1998	–	1,080	2,475	–	–	3,555
1999	500	1,765	30,277	987	–	33,529
2000	–	480	2,845	–	8,610	11,935

Note: The above data excludes CP, short-term notes and loan stocks; The data for 2000 covers January to June.

Source: Bank Negara Malaysia, Outstanding Facility as of 30 June 2000.

Table 22: Malaysia, Maturity Structure of Outstanding PDS Issued (Percent): 1995-2000

Year	2 to 3 Years	4 to 5 Years	6 to 10 Years	11 to 15 Years	Above 15 Years	Total
1995	0.0	55.2	9.0	0.0	35.8	100.0
1996	0.0	66.7	1.2	0.0	32.1	100.0
1997	0.0	45.0	45.9	9.1	0.0	100.0
1998	0.0	30.4	69.6	0.0	0.0	100.0
1999	1.5	5.3	90.3	2.9	0.0	100.0
2000	0.0	4.0	23.8	0.0	72.1	100.0

Note: The above data excludes CP, short-term notes and loan stocks; The data for 2000 covers January to June.

Source: Bank Negara Malaysia, Outstanding Facility as of 30 June 2000.

3.4. Issue Size and Sector

The issue size for PDS ranged from RM25 million to RM15.9 billion, with an overall average of RM343 million (RM159 million in 1997). Listed companies accounted for 62% of the total number of issuers (Table 23 and Table 24). About 36% of the 180 issuers are private limited companies while the remaining issuers are from state economic development corporations.

About 60% of corporate bond issuers are public listed companies, which can be considered large-scale firms. The rest are private limited companies of which 80% can be estimated to be either affiliated, subsidiaries or holding companies of existing public listed companies. Many belong to the construction, infrastructure, utility and manufacturing sectors. Some issuers (a couple or so) are state development bodies and financial institutions as well.

Table 23: Malaysia, Number of Corporate Bonds Issued By Issuers: 1995-2000

Year	Commercial Banks	Other Banks	Nonbanks	Nonfinancial Firms	Total
1995	0	0	0	18	18
1996	0	0	0	30	30
1997	1	2	2	20	25
1998	0	0	0	7	7
1999	0	1	1	17	19
2000	0	0	0	14	14
Total	1	3	3	106	113

Note: The above data excludes CP, short-term notes and loan stocks; the data for 2000 covers January to June.

Source: Bank Negara Malaysia; Outstanding Facilities as of 30 June 2000.

Table 24: Malaysia, Value of Corporate Bonds Issued By Issuers (Millions of Ringgits): 1995-2000

Year	Commercial Banks	Other Banks	Nonbanks	Nonfinancial Firms	Total
1995	—	—	—	4,400	4,400
1996	—	—	—	8,267	8,267
1997	800	675	710	7,482	9,667
1998	—	—	—	3,555	3,555
1999	—	250	—	33,279	33,529
2000	—	—	—	11,935	11,935
Total	800	925	710	68,918	71,353

Note: The above data excludes CP, short-term notes and loan stocks; The data for 2000 covers January to June.

Source: Bank Negara Malaysia; Outstanding Facilities as of 30 June 2000.

Issuers were predominantly from the manufacturing, construction, and transport/storage and communications sectors. In the years immediately preceding the crisis, the financial sector was dominant (largely due to the issue of bonds by Danamodal and Danaharta). By 2000, the dominant sectors were transport/storage and communication, the financial sectors and utilities (Table 25 and Table 26).

Table 25: Malaysia, Newly Issued of PDS by Sector (Millions of Ringgits): 1995-2000

Sectors	1995	1996	1997	1998	1999	2000
Agriculture, Forestry and Fishing	165	0	214	0	0	43
Mining and Quarrying	0	0	0	0	0	0
Manufacturing	878	3,245	3,604	125	1,115	1,133
Construction	1,883	2,598	2,069	1,473	9,011	1,869
Electricity, Gas and Water	1,530	1,017	2,237	529	64	4,564
Transport, Storage & Communications	2,424	2,886	2,260	0	20	7,320
Finance, Insurance, Real estate and Business Services	1,250	319	3,924	7,705	2,259	5,237
Government and Other Services	25	436	0	1,000	0	0
Wholesale, Retail Trade, Hotels and Restaurants	1,045	1,882	120	0	660	2,131
Total	9,201	12,384	14,428	10,832	13,128	22,296

Note: The above data refers to new issues of listed and non-listed PDS. Data excludes Cagamas Bonds.

Source: Bank Negara Malaysia.

Table 26: Malaysia, Newly Issued Private Debt Securities by Sector: 1995-2000

Sectors	1995	1996	1997	1998	1999	2000
Agriculture, Forestry and Fishing	1.8	0.0	1.5	0.0	0.0	0.2
Mining and Quarrying	0.0	0.0	0.0	0.0	0.0	0.0
Manufacturing	9.6	26.2	25.0	1.2	8.5	5.1
Construction	20.5	21.0	14.3	13.6	68.6	8.4
Electricity, Gas and Water	16.6	8.2	15.5	4.9	0.5	20.5
Transport, Storage and Communications	26.4	23.3	15.7	0.0	0.2	32.8
Finance, Insurance, Real estate and Business services	13.6	2.6	27.2	71.1	17.2	23.5
Government and Other Services	0.3	3.5	0.0	9.2	0.0	0.0
Wholesale, Retail Trade, Hotels and Restaurants	11.4	15.2	0.8	0.0	5.0	9.6
Total	100.0	100.0	100.0	100.0	100.0	100.0

Note: Data excludes Cagamas Bonds.

Source: Bank Negara Malaysia, Monthly Statistic Bulletin, December 2000.

3.5. Guaranteed bonds

Guarantors include the government, banking institutions or top credit-rated corporations. Before the crisis, the majority of corporate bonds carried guarantees from banking institutions. The bank guarantee means that the issuer has obtained a guarantee facility from a bank or a consortium of banks to fulfill its obligations upon any default in respect of payment of interest and principal. Part of the reason for their popularity resulted from a regulatory requirement that bonds had to carry a minimum investment grade rating of BBB before regulatory approval for issuance would be granted. From 1995 to 1997, about 17% of total PDS outstanding issued are guaranteed issues.

Table 27: Malaysia, Guaranteed or Non-guaranteed Corporate Bonds Issued (Number, Millions of Ringgits): 1995-2000

	Number		Value	
	Guaranteed Bonds	Non-guaranteed Bonds	Guaranteed Bonds	Non-guaranteed Bonds
1995	6	12	2,168	1,898
1996	4	26	1,055	7,212
1997	4	21	280	8,587
1998	7	0	50	3,505
1999	0	19	–	33,529
2000*	0	14	–	11,935
Total	21	92	3,553	66,666

Note: The majority of the guaranteed bonds are guaranteed by banks. However, in 1995, one bond was guaranteed by the government; The above data exclude CP, short-term notes and loan stocks; The data for 2000 cover January to June.

Source: Bank Negara Malaysia, Outstanding Facility as of 30 June 2000.

As the regional financial turmoil became prolonged after the occurrence of crisis, banking institutions faced with economic uncertainties became cautious in extending credit. Tight and uneven distribution of liquidity further heightened the problem. Further, investors were also concerned over the weakening credit risk profiles of corporates. Hence, the share of guaranteed PDS declined to 0.1% in 1998-2000. It should also be noted that the minimum investment grade requirement was no longer required from 1 July 2000 onwards.

3.6. Utilization of Proceeds from PDS Issuance

In 2000, 52% of PDS issued was for implementation of corporate debt restructuring schemes, followed by new activities (31.2%) and refinancing purposes (16.8%).

3.7. Rating Profile of PDS

All corporate bonds issued in the domestic Malaysian market are required to be rated by a domestic rating agency. Almost all corporate bonds are sold via private placement, as bond investors in Malaysia are largely institutional.

In term of ratings distribution, based on a stand-alone basis, which measures the issuer's inherent ability to repay the debt obligations, the bulk of the ratings are concentrated in the categories that reflect adequate capacity of the issuer to meet financial obligations. About 30% of long-term issues have a stand-alone rating of A, which reflects adequate safety of timely repayment of interest and principal. About 36% of the short-term papers issued have stand-alone ratings of P3, which reflects adequate safety on repayment of debt obligations.

3.8. Investor Profile for PDS

However, due to the lengthy approval process and high issuance cost, public offers have not been attractive to issuers. Hence, most issuers issued their PDS via a bought deal or private placements since they could save on the high cost of issuing a prospectus and the approval process.

Provident and pension funds, insurance companies, commercial banks, finance companies, merchant banks and discount houses absorbed about 81.1% (RM25.5 billion) of total PDS outstanding issued in 1995, against 69% (RM4.9 billion) in 1990 (Table 28).

Financial institutions constituted about 25.1% of total PDS outstanding in 2000, while other institutions such as the EPF and insurance companies held about 73.4%. However, foreigners held about 1.4% of the total outstanding bonds issued.

Table 28: Malaysia, Major Investors of Corporate Bonds: End of November 2000¹

	RM (Millions of Ringgits)	Percent
Commercial banks	16,911	17.2
Financial companies	2,337	2.4
Merchant banks	3,389	3.5
Discount houses	2,016	2.1
All financial institutions	24,652	25.1
Foreign holders	1,426	1.5
Others ²	72,115	73.4
Total	98,192	100.0

Note: 1 Data refers to investors' profile based on total bonds outstanding in the market and excludes short and medium-term papers.

2 Others include major bond holders, i.e., EPF and insurance companies.

Source: Bank Negara Malaysia.

3.9. Secondary Market for PDS

The secondary market for PDS improved significantly in 1999 and 2000. Total volume traded of unlisted PDS amounted to RM54.3 billion or 46% of the total trading volume in 1999 and RM80.9 billion (63%) in 2000, compared to RM4.6 billion (19%) in 1995.

The strong secondary market activity after the crisis was due to lower interest rates, ample liquidity, improving credit sentiment, growing supply of PDS, a bigger investor base and measures introduced by the government to boost bond market development (Table 29).

Table 29: Malaysia, Turnover Ratios for Corporate Bonds: 1995-1999

Year	Turnover of PDS (Millions of Ringgits)	Outstanding amount of PDS (Millions of Ringgits)	Turnover ratios for PDS (Percent)
1995	16,159	32,013	50.5
1996	3,311	46,755	7.1
1997	8,657	63,350	13.7
1998	7,376	75,402	9.8
1999	75,939	111,776	67.9
Total	111,442	329,296	33.8

Note: 1 Since bids have been available only after 1997, the turnover of PDS from 1995 to 1996 is based on data estimates from the RAM Newsletter.

2 Turnover ratio is determined by dividing turnover of PDS by the outstanding amount of PDS.

3 PDS include Danaharta bonds, Danamodal bonds, Cagamas bonds and others (listed and unlisted).

Sources: Bank Negara Malaysia; Securities Commission.

3.10. Other Developmental Measures for the PDS Market After the Crisis

- BNM launched the BIDS in October 1997. The BIDS is a centralised database providing information on the terms of issue, real-time prices, details of trades done and relevant news on the various debt securities.
- A new liquidity framework was introduced in July 1998 to promote efficient liquidity management and promote development of the PDS market. Under this, the concept of liquidity is based on matching the short-term liquidity requirement arising from maturity mismatches in each individual banking institution.
- A key measure to accelerate the development of the bond market was the establishment of the National Bond Market Committee (NBMC) and its various sub-committees in June 1999, to provide policy direction and rationalise the regulatory framework for the orderly development of the bond market.
- A new legal framework was put in place in July 2000 centralising the issuance process for PDS with a single regulator to avoid fragmentation and duplicity. Powers over prospectuses and debentures now lie with the SC and a new issuance framework for the issuance of corporate bonds has been created. The SC's Guidelines on the Offering of PDS has replaced the BNM's Guidelines.
- These new guidelines introduced provisions that liberalised regulatory requirements and facilitates a speedy approval process of 14 days. This framework introduces a disclosure-based scheme of regulation for the approval of PDS as laid out in the

Guidelines on the Offering of PDS. Approvals from BNM and the Registrar of Companies are no longer necessary in most cases.

- To cater for the varied financial needs of issuers and promote access to a broad spectrum of financial instruments for fund raising, as well access to a diversity of investments for investors, active steps have been taken to promote securitization transactions in the bond market by the introduction of Guidelines on the Offering of Asset Backed Debt Securities by the SC.
- At the same time, secondary market liquidity for PDS has been enhanced with the removal of the restriction that was imposed under the Banking and Financial Institutions Act, 1989, on a corporation that is not a licensed institution to engage in repo transactions in PDS. With effect from 1 July 2000, repo transactions may be entered into by all persons, whether or not the person is a licensed institution or corporation.

4. Issues Facing the Ringgit Bond Market

The availability of a wide range of hedging instruments will help improve bond market liquidity and widen the investor base. The development of currency, interest rate and bond futures markets will enhance the underlying cash market. Bond lending facilities and the ability to short sell will facilitate leveraged long and short positions, thus increasing liquidity in the cash market. The interest rate risk premium can be reduced through improved opportunities for hedging via the cash or futures market.

The captive demand for MGS must be reviewed. As a result of current regulatory requirements, provident and pension funds and financial institutions have to invest a significant portion of their resources in government securities, which they tend to hold until maturity. In line with the policy to promote the development of an efficient financial market, greater flexibility should be given to provident and pension funds, and financial institutions to manage their investment portfolios.

Liquidity and maturity mismatch risks arise when markets are inefficient in matching the supply and demand across credits and maturities. The average tenure of PDS issues is generally five years. The lack of depth in the supply of long-term funding has often resulted in a funding mismatch between long-term funding needs and the bonds issued.

Many of these aspects have been identified as requiring review and are the subject of recommendations made by the SC in its Capital Market Masterplan.

5. Conclusion

If Malaysia is to meet the financing needs of recovery and future growth, the corporate sector's past financing patterns, with its heavy reliance on bank financing and internally generated funds, must change rapidly. Banks can meet only a portion of funding needs due

to asset-liability restrictions. Financing investments of a large magnitude will require the mobilization of resources on a large scale. Given the country's large long-term savings, much of the investment can be drawn locally.

However, this calls for accelerated development of the capital market so that intermediation of long-term savings and long-term investments can be performed efficiently. Bonds that allow disintermediation and offer various maturities will be the capital market instrument for increasingly discerning corporate borrowers. Several measures have been taken in recent years, but they need to be accelerated. The capital market is likely to grow rapidly based on the large requirements for financing growth, the increasing pace of privatization and growing capital intensity of industrial projects. There will also be a growing appetite among investors for fixed-income instruments from institutional investors.

Appendix III. Case of Thailand

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1. Introduction

1.1. Development of the Bond Market

Before 1992, there was a limited supply of bonds in Thailand. Under corporate law, only public and exchange-listed companies on the corporate side were eligible to issue bonds. Limited companies, which comprised the majority of business entities, were prohibited. As a result, government and state enterprises were the main issuers in the bond market. However, due to a budget surplus, the government did not issue any of its own bonds between 1987 and 1997. In addition, the demand for bonds was also limited. Before 1992, institutional investors, who are usually the major players in the bond market, were not yet developed enough to provide the market with needed demand. Last, several elements of the infrastructure necessary, such as an organized secondary market, credit rating agency, etc., were also not in place.

The pace of development in the bond market accelerated after the enactment of the Securities and Exchange Act in 1992. Under the new law, limited companies were allowed to issue corporate bonds. During 1992-1997, the size of the corporate bond market expanded rapidly as increasing numbers of companies issued corporate bonds. In 1993, the first credit rating agency, the Thai Rating Information Service Co., Ltd., was established, and this was followed in 1994 by the establishment of the first organized over-the-counter (OTC) entity, the Bond Dealers Club. In addition, deregulation in the mutual fund industry in 1992 and the establishment of private funds and pension funds in 1997 have also broadened the institutional investor base for the market.

1.2. Relative Size of the Bond Market

In 1995-1997, the total outstanding value of domestic bonds increased at a moderate rate—from B424 billion in 1995 to B547 billion in 1997 (Table1). But the outstanding value was only 5% to 8% of the total outstanding loans, equity and domestic bonds in 1995-1997. The growth of the bond market during this period was mainly due to the increase in the outstanding value of corporate bonds and state enterprise bonds, given that the government did not issue new bonds.

**Table 1: Thailand, Outstanding Values of Loans, Equity and Domestic Bonds
(Billions of Baht, Percent): 1995-2000**

Source	1995	1996	1997	1998	1999	H1 2000
Bank Loans ¹	3,388	3,898	4,920	4,380	4,173	3,915
Proportion (%)	(41.1)	(48.5)	(69.0)	(62.0)	(52.0)	(54.9)
Loans from Other Financial Institutions ²	878	1,065	530	475	267	255
Proportion (%)	(10.6)	(13.3)	(7.4)	(6.7)	(3.3)	(3.6)
Equity (market value)	3,565	2,560	1,133	1,268	2,193	1,474
Proportion (%)	(43.2)	(31.8)	(15.9)	(17.9)	(27.3)	(20.7)
Domestic Bonds ³ (par value)	424	519	547	941	1,389	1,484
Proportion (%)	(4.7)	(5.8)	(6.6)	(11.7)	(15.5)	(17.6)
Total	8,255	8,042	7,130	7,064	8,022	7,128
Proportion (%)	(100.0)	(100.0)	(100.0)	(100.0)	(100.0)	(100.0)

Note: 1 Bills, Loans and Overdraft of Commercial Banks exclude inter-bank and other financial business loans and personal consumption loans.

2 Other financial institutions loans to corporations include loans from finance companies, credit foncier companies, industrial finance corp. and small industry finance corp.

3 The TBDC collected data from the following registrars: IFCT, BAY, BBL, BFIT, TFB, TSD, etc.

Source: Bank of Thailand, Securities and Exchange Commission, and Public Debt Management Office.

After 1997, the domestic bond market expanded rapidly. The total outstanding value of domestic bonds almost tripled during 1997-2000, from B547 billion, or 7.7% of total outstanding value of loans, equity and domestic bonds in 1997, to B1,484 billion or 20.8% in 2000. The massive growth in the bond market after 1997 was due to the issuance of a substantial amount of bonds both by the government sector in order to finance its budget deficit, and blue-chip companies in the private sector.

1.3. Sources of Funds for Private Investment

In 1995-1996, private investment was mainly financed by new bank loans, whose proportion to total private investment was 37% to 48%. Apart from these, retained earnings and other sources of funds also played an important role in supporting total private investment, providing funds of 18% to 31%. On the other hand, funds raised through equity and the bond market were relatively small. The proportion of each source of funds was less than 11% of total private investment (Table 2).

After 1997, the financing pattern of businesses changed drastically as they relied less on the loan market. The net flows of bank loans as well as loans from other financial institutions continued to be negative, indicating that the repayment amount of loans exceeded the value of new loans. In 1998-1999, sources of funds supporting private investment were from the equity market, bond market, retained earnings and others.

Table 2: Thailand, Source of Funds for Private Investment (Billions of Baht, Percent): 1995-2000

Source of Funds	1995	1996	1997	1998	1999	H1 2000
New Bank Loans¹	613	510	1,022	-540	-207	-258
Proportion (%)	(45.4)	(36.0)	(99.2)	N.M.	N.M.	N.M.
New Loans from Other Financial Institutions^{1,2,3}	222	188	-535	-55	-208	-12
Proportion (%)	(16.5)	(13.3)	N.M.	N.M.	N.M.	N.M.
Equity Market	130	118	63	330	466	86
Proportion (%)	(9.6)	(8.3)	(6.1)	(56.5)	(93.1)	(31.4)
Bond Market	156	168	51	32	304	84
Proportion (%)	(11.5)	(11.9)	(4.9)	(5.6)	(60.7)	(30.9)
Retained Earnings and Others	229	432	430	816	146	373
Proportion (%)	(17.0)	(30.5)	(41.7)	(139.8)	(29.1)	(137.1)
Total Private Investments	1,350	1,415	1,031	584	500	272
Proportion (%)	(100.0)	(100.0)	(100.0)	(100.0)	(100.0)	(100.0)

Note: 1. New bank loans and other financial institutions' loans to corporations are calculated from the change of outstanding value of bank loans to corporations from the previous period.

2. New loans from banks and other financial institutions exclude inter-bank inter-finance loans and loans to the household sector.

3. New loans from others financial institutions include loans from finance companies, credit foncier companies, industrial finance corp. and small industry finance corporations.

4. NM refers to not mentioned.

Source: Bank of Thailand, Securities and Exchange Commission

1.4. Household Savings Patterns

Based on surveys conducted by the Bank of Thailand (BOT) in 1993 and 1998, deposits form the major type of household savings. The proportion of deposits to total savings was about 75% and 95% of total savings in 1993 and 1998, respectively (Table 3). Savings in the form of life insurance were the second most important type of household savings in 1993, as their proportion to total savings accounted for about 19%. However, this proportion declined greatly after the financial crisis. In 1998, life insurance savings comprised only 1.4% of total savings.

The proportion of other types of household savings (equities, provident funds, pension funds, mutual funds, etc.) was relatively small. According to the 1993 and 1998 surveys, they together comprised less than 7% of total savings.

Table 3: Thailand, Household Savings Pattern (Percent): 1993 and 1998

Type of Savings	1993	1998
Deposits	74.9	94.5
Life insurance	18.9	1.4
Equity	1.3	0.3
Provident funds	0.3	2.1
Others*	4.7	1.7
Total	100.0	100.0

Note: *The figures in 1993 and 1998 include mutual funds, pension funds, private funds and other investments.

Source: Survey by Bank of Thailand, 1993, 1998.

2. Government Debt Securities

2.1. The Primary Market

Types of Government Debt Securities

Government debt securities may be classified into six major types, as follows: (1) government bonds, (2) State enterprise bonds, (3) BOT bonds, (4) Financial Institution Development Fund (FIDF) bonds, (5) Property Loan Management Organization (PLMO) bonds, and (6) Treasury bills (T-bills). The BOT bonds, FIDF bonds and PLMO bonds are no longer issued.

Issuing Process

Between 1987 and 1997, the government did not issue bonds due to the budget surplus. In 1998, it issued bonds for the first time in a decade. Since then, the government has issued bonds on a weekly basis (every Wednesday). Government bonds are issued through auction organized by the central bank. The term and size of the auctions is announced one week prior to the auction date. Nowadays, they are held on a competitive price auction (American auction) basis for government bonds with maturity up to 10 years and on a uniform price auction (Dutch auction) basis for government bonds with maturity exceeding 10 years.

T-Bills are also issued through auction, which is organized by the central bank weekly on an American auction basis. As for state enterprise bonds, issuance is centralized at the Comptroller General Office, Ministry of Finance (MOF). They are issued only as and when each state enterprise needs funding. The auctions are held on a Dutch auction basis.

Value of Government Debt Securities Offerings

The amount of government debt securities offered in the primary market has increased markedly in recent years. In 1995, the total offering value was about B98 billion (Table 4). The value increased significantly to B220 billion-B263 billion in 1996-1997 and further to B513-545 billion in 1998-1999.

State enterprise bonds comprised the main type of government debt securities offered during 1995, accounting for about 63% of total government debt securities in 1995 (Tables 4 and 5). In 1996-1997, the issuance value of the BOT bonds and FIDF bonds increased markedly and accounted for 63% to 72% of total offering value of government debt securities. After 1997, government bonds became the major type of government debt securities offered in the primary market, accounting for 78% and 61% in 1998 in 1999, respectively.

The domestic market was the major market where government debt securities were offered. The value offered in the domestic market accounted for 86% to 89% of the total offering value of government debt securities in 1995-1996 and more than 90% in 1997-1999 (Table 6).

Table 4: Thailand, Value of Government Debt Securities Offerings in the Primary Market (Billions of Baht): 1995-2000

Type of Government Debt Securities	1995	1996	1997	1998	1999	2000 (Jan.-Sep.)
Government Bonds	7	14	2	400	332	55
State Enterprise Bonds	61	68	71	58	105	84
BOT Bonds and FIDF Bonds	30	139	189	55	-	-
Treasury Bills ¹	-	-	-	-	77	138
Property Loan Management Organization (PLMO)	-	-	1	-	29	1
Total Public Bonds	98	220	263	513	546	278
Total Corporate Bonds	87	133	41	36	316	126
Total Bonds (Public & Corporate)	185	353	304	549	862	404

Note: 1. Data based on the net issuance basis.

2. "-" means no activity.

Source: Bank of Thailand and Thai Bond Dealing Center.

Table 5: Thailand, Proportion of Each Type of Government Debt Securities Offerings to Total Bonds (Percent): 1995-2000

Type of Government Debt Securities	1993	1994	1995	1996	1997	1998	1999	2000 (Jan.-Sep.)
Proportion to Public Bonds								
Government Bonds	-	-	7.0	6.3	0.7	78.0	60.9	19.9
State Enterprise Bonds	85.1	85.2	62.8	30.7	27.1	11.3	19.7	30.2
BOT Bonds and FIDF Bonds	-	-	30.2	63.0	71.8	10.7	-	-
Treasury Bills	-	-	-	-	-	-	14.1	49.6
Property Loan Management Organization (PLMO)	-	-	-	-	0.4	-	5.3	0.4
Total			100.0	100.0	100.0	100.0	100.0	100.0
Proportion to Total Bonds								
Government Bonds	-	-	3.7	3.9	0.6	72.8	38.6	13.7
State Enterprise Bonds	85.1	85.2	33.3	19.1	23.4	10.6	12.5	20.8
BOT Bonds and FIDF Bonds	-	-	16.0	39.3	62.2	10.0	-	-
Treasury Bills	-	-	-	-	-	-	8.9	34.2
Property Loan Management Organization (PLMO)	-	-	-	-	0.3	-	3.4	0.3
Total			53.0	62.4	86.5	93.4	63.3	68.9

Note: "-" means no activity

Source: Bank of Thailand

Table 6: Thailand, Government Debt Securities Offered in Domestic and Overseas Market (Billions of Baht): 1995-2000

Government Debt Securities Offerings		1995	1996	1997	1998	1999	H1 2000
Domestic		85	196	239	502	536	264
	Proportion (%)	(86.6)	(89.1)	(91.0)	(97.8)	(98.3)	(94.9)
Government Bonds		-	-	-	400	332	41
	Proportion (%)	-	-	-	(78.0)	(60.9)	(14.7)
State Enterprise Bonds		55	57	49	47	98	84
	Proportion (%)	(56.4)	(26.1)	(18.7)	(9.1)	(18.0)	(30.2)
BOT Bonds and FIDF Bonds		30	139	189	55	-	-
	Proportion (%)	(30.2)	(63.0)	(71.8)	(10.7)	-	-
Treasury Bills		-	-	-	-	77	138
	Proportion (%)	-	-	-	-	(14.1)	(49.6)
PLMO		-	-	1	-	29	1
	Proportion (%)	-	-	(0.4)	-	(5.3)	(0.4)
Overseas		13	24	24	11	9	14
	Proportion (%)	(13.4)	(10.9)	(9.1)	(2.2)	(1.7)	(5.1)
Government Bonds		7	14	2	-	-	14
	Proportion (%)	(7.0)	(6.3)	(0.7)	-	-	(5.1)
State Enterprise Bonds		6	10	22	11	9	-
	Proportion (%)	(6.4)	(4.6)	(8.3)	(2.2)	(1.7)	-
Total		98	220	263	513	546	278
	Proportion (%)	(100.0)	(100.0)	(100.0)	(100.0)	(100.0)	(100.0)

Note: “-” means no activity.
Source: Bank of Thailand.

Government Debt Securities Offered in Overseas Markets

Government debt securities offered in overseas markets during 1995-1996 were mainly Samurai bonds, comprising 58% to 74% of the total. The rest were Yankee bonds. In 1997-1998, government debt securities offered overseas were denominated solely in US dollars while those in 1999 were solely in yen (Table 7).

Maturity Structure of Government Debt Securities

In 1998-1999, the government issued bonds for the first time in a decade under a B500 billion program to finance the liability of the FIDF. The original maturity of the bonds ranged from one to 15 years, with a relatively high concentration of one-year, three-year, five-year, seven-year and 10-year bonds (Table 8).

As for state enterprise bonds, almost all bonds issued in 1995-1998 had maturities of less than 10 years. After 1998, state enterprise bonds issued were relatively long-term bonds, with about 18% to 33% of bonds issued with maturity equal to or greater than 10 years (Table 9).

Table 7: Thailand, Currency Denomination of Government Bonds and State Enterprises Bonds Offered in Overseas Markets: 1995-2000

	1995	1996	1997	1998	1999	2000 (Jan.- Sep.)
Government Bonds						
Samurai bonds (Millions of Yen)	27,000	60,000	-	-	-	-
Yankee bonds (Millions of US\$)	-	-	600	-	-	-
Euro CP (Millions of Yen)	-	-	-	-	-	39,813
State Enterprises Bonds						
Guaranteed Bond						
Yankee Bonds (Millions of US\$)	-	200	-	300	-	-
Samurai Bonds (Millions of Yen)	-	-	-	-	30,000	-
Non-Guaranteed Bond						
Yankee Bonds (Millions of US\$)	100	200	193	-	-	-
Proportion (%)¹						
Samurai bonds (%)	73.3	57.8	75.6	-	100.0	-
Yankee bonds (%)	26.7	42.2	24.4	100.0	-	-
Euro CP (%)	-	-	-	-	-	100.0
Total	100.0	100.0	100.0	100.0	100.0	100.0

Note: 1. Proportion of US dollar base

Source: Public Debt Management Office, Ministry of Finance and Bank of Thailand.

Table 8: Thailand, Maturity of Government Bonds Under the Bt. 500 Billions Program

Original Maturity (Years)	1998		1999 (June)	
	Amount (Millions of Baht)	(Percent)	Amount (Billions of Baht)	(Percent)
1	150,000	37.5	-	-
2	20,000	5.0	-	-
3	50,000	12.5	-	-
4	-	-	30,000	30.0
5	60,000	15.0	-	-
6	-	-	30,000	30.0
7	50,000	12.5	-	-
8	20,000	5.0	-	-
10	50,000	12.5	-	-
12	-	-	20,000	20.0
15	-	-	20,000	20.0
Total	400,000	100.0	100,000	100.0

Note: "-" means no activity.

Source: Bank of Thailand.

Table 9: Thailand, the Maturity Structure of State Enterprise Bonds: 1995-2000¹

Maturity	Value of Issues (Billions of Bahts)						Proportion (Percent)					
	1995	1996	1997	1998	1999	2000	1995	1996	1997	1998	1999	2000
1 Year	2	0	1	0	0	0	4.9	0.0	1.9	0.0	0.0	0.0
2 Years	0	3	0	14	0	0	0.0	4.4	0.0	27.4	0.0	0.0
3 Years	15	1	0	9	3	8	38.0	0.9	0.0	17.6	4.4	6.7
4 Years	7	6	3	6	0	4	17.2	10.3	5.7	11.7	0.0	3.2
5 Years	9	14	17	8	12	13	21.2	23.1	31.8	15.3	17.8	11.0
6 Years	0	6	3	5	10	10	0.0	10.3	4.8	9.5	15.1	8.6
7 Years	6	16	12	6	16	14	15.2	27.8	22.5	11.6	23.2	12.2
8 Years	1	9	12	3	9	20	3.5	15.4	21.9	5.9	13.4	17.2
9 Years	0	0	0	0	5	10	0.0	0.0	0.0	0.0	7.8	8.6
> 10	0	5	6	1	12	38	0.0	7.8	11.4	1.0	18.3	32.5
	41	58	53	51	68	116	100.0	100.0	100.0	100.0	100.0	100.0

Note: 1. Data refers to fiscal year.

2. "-" means no activity.

Source: Bank of Thailand.

2.2. The Secondary Market

Outstanding Value

In 1995, the outstanding value of government debt securities in the Thai Bond Dealing Center (TBDC) was B8.5 billion, accounting for 8.7% of the total in the TBDC (Table 10). After the 1997 financial crisis, the outstanding value of government debt securities in the TBDC increased markedly due to the issuance of a substantial amount of government bonds in order to support financial reform measures. In 1999, the outstanding value of government debt securities registered in the TBDC was B930.2 billion, accounting for about 84% of the total bonds registered in the center.

Table 10: Thailand, Outstanding Values of Bonds in the TBDC (Billions of Baht): 1995-2000

Type of Bonds	1995	1996	1997	1998	1999	2000
Government Debt Securities						
Government Bonds ¹	-	-	-	330	539	586
% of Total Bonds	-	-	-	(43.3)	(49.7)	(46.2)
State Enterprises Bonds ¹	-	-	-	286	356	407
% of Total Bonds	-	-	-	(37.5)	(32.9)	(32.1)
T-Bills	-	-	-	-	25	62
% of Total Bonds	-	-	-	-	(2.3)	(4.9)
BOT/FIDF/PLMO	9	19	37	21	10	4
% of Total Bonds	(8.7)	(12.4)	(21.6)	(2.7)	(0.9)	(0.3)
Total Government Debt Securities	9	19	37	638	905	1060
% of Total Bonds	(8.7)	(12.4)	(21.6)	(83.5)	(83.5)	(83.5)
Corporate Debt Securities	89	130	133	126	179	210
% of Total Bonds	(91.3)	(87.6)	(78.4)	(16.5)	(16.5)	(16.5)
Total Bonds	98	149	169	764	1,085	1,270
% of Total Bonds	(100.0)	(100.0)	(100.0)	(100.0)	(100.0)	(100.0)

Note: 1. BDC was established in November 1994 and renamed TBDC in April 1998 following its status upgrade to 'Bond Exchange'. Government and state enterprise bonds have been registered after TBDC operated.

2. "-" means no activity.

Source: The Thai Bond Dealing Center.

Trading Value

Trading value of government debt securities in the TBDC was B930 million in 1995, accounting for 1.8% of total trading value in the center (Table 11). In 1996-1997, trading value of government debt securities continued to increase but the proportion of government debt securities to total trading was still quite low. After 1997, government debt securities dominated the TBDC's trading activity. In 1999, the trading value of government debt securities reached B398.4 billion, accounting for about 92% of the TBDC total, while the turnover ratio was about 43% (Table 12).

Table 11: Thailand, Trading Values of Bonds in the TBDC (Billions of Baht): 1995-2000

Type of Bonds	1995	1996	1997	1998	1999	2000
Government Debt Securities						
Government Bonds	-	-	-	43	341	1,028
% of Total Bonds	-	-	-	(59.8)	(79.1)	(75.7)
State Enterprises Bonds	-	-	-	8	51	208
% of Total Bonds	-	-	-	(10.4)	(11.8)	(15.3)
T-Bills ^{2/}	-	-	-	-	4	47
% of Total Bonds	-	-	-	-	(0.9)	(3.5)
BOT/FIDF/PLMO	1	5	15	13	3	1
% of Total Bonds	(1.8)	(2.4)	(14.3)	(17.4)	(0.6)	(0.0)
Total Government Debt Securities	1	5	15	63	398	1,284
% of Total Bonds	(1.8)	(2.4)	(14.3)	(87.7)	(92.4)	(94.6)
Corporate Debt Securities	51	196	91	9	33	73
% of Total Bonds	(98.2)	(97.6)	(85.7)	(12.3)	(7.6)	(5.4)
Total Bonds	52	201	106	72	431	1,357
% of Total Bonds	(100.0)	(100.0)	(100.0)	(100.0)	(100.0)	(100.0)

Note: 1. The BDC was established in November 1994 and renamed the TBDC in April 1998 following its status upgrade to 'Bond Exchange'. Government and state enterprise bonds have been registered after the TBDC operated.

2. "-" means no activity.

Source: The Thai Bond Dealing Center.

Table 12: Thailand, Turnover Ratios of Bonds in the TBDC (Percent): 1995-2000¹

Type of Bonds	1995	1996	1997	1998	1999	2000
Government Debt Securities						
Government Bonds	-	-	-	13.0	63.3	175.3
State Enterprises Bonds	-	-	-	2.6	14.3	51.0
T-Bills	-	-	-	-	-	76.5
BOT/FIDF/PLMO	11.0	26.1	41.7	59.9	27.3	16.3
Total Government Debt Securities	11.0	26.1	41.7	9.9	44.0	121.1
Corporate Debt Securities	56.7	150.4	68.6	7.1	18.3	35.0
Total Bonds	52.7	134.9	62.8	9.4	39.8	106.9

Note: 1. Turnover Ratio = Yearly Trading Value/Outstanding Value.

2. "-" means no activity.

Source: The Thai Bond Dealing Center.

Major Investors

Almost all government debt securities are held by institutions. The BOT, commercial banks, Government Savings Bank and other financial institutions are the main investors in the government debt securities market. In 1995-1996, this group of investors altogether held more than 90% of the total government debt securities (Table 13). Starting from 1997, the proportion held by investors in the financial sector declined while insurance companies and other investors gained larger proportions. As of June 2000, financial institutions hold about 78%, insurance companies 7% and other investors 15% of total government debt securities.

Table 13: Thailand, Investors in Government Debt Securities (Billions of Baht): 1995-2000¹

Type of Investors	1995	1996	1997	1998	1999	2000 (June)
Bank of Thailand & FIDF	12	21	75	215	153	134
Proportion (%)	(4.4)	(7.0)	(24.4)	(30.1)	(15.9)	(13.3)
Commercial Banks	166	158	137	282	414	438
Proportion (%)	(59.1)	(53.2)	(44.5)	(39.6)	(43.0)	(43.4)
Government Savings Bank	14	24	22	48	148	154
Proportion (%)	(5.0)	(8.3)	(7.1)	(6.7)	(15.4)	(15.3)
Other Financial Institutions	71	75	42	72	62	60
Proportion (%)	(25.2)	(25.4)	(13.5)	(10.1)	(6.4)	(5.9)
Insurance Companies	7	7	15	31	62	71
Proportion (%)	(2.4)	(2.2)	(4.8)	(4.4)	(6.4)	(7.0)
Others²	11	12	18	65	125	152
Proportion (%)	(3.9)	(3.9)	(5.7)	(9.1)	(12.9)	(15.1)
Total	281	296	308	713	965	1,008
Proportion (%)	(100.0)	(100.0)	(100.0)	(100.0)	(100.0)	(100.0)

Note: 1. Government Debt Securities include Government Bonds, Treasury Bills and State Enterprise Bonds.

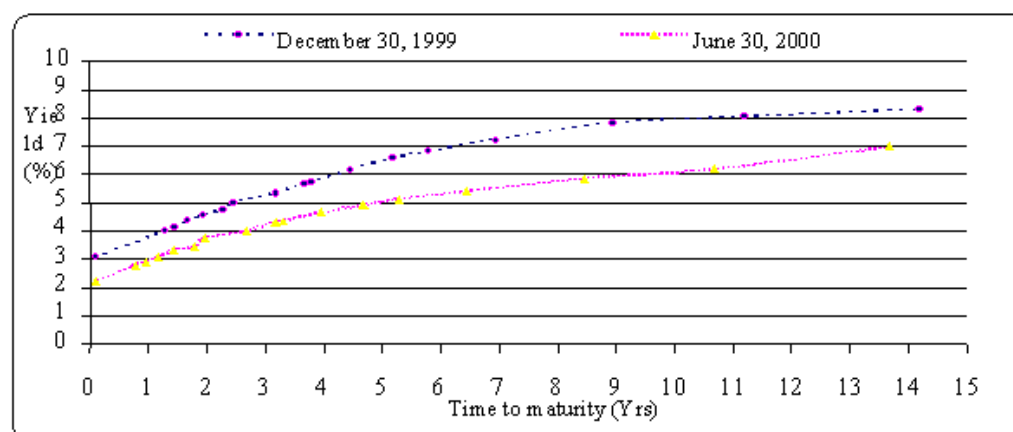
2. Other investors include non-bank institutional investors, such as mutual funds, provident funds, pension funds, etc., corporations and individuals.

Source: Bank of Thailand.

The Yield Curve

The government bond yield curve was first developed by the TBDC in September 1998 following the relaunch of government bonds. Its construction was based on weighted average executed yield. However, since September 15, 1999, the yield curve has been constructed based on bidding yield of all government bonds quoted by nine primary dealers at minimum value of B20 million. Additionally, a set of government bonds was selected to represent benchmark bonds. The maturities chosen were close to one, two, five, seven and 10 years, according to their outstanding sizes and trading activities. The benchmark bonds are reviewed every three months. Chart 1 shows the TBDC government bond yield curves on 30 December 1999, and 30 June 2000.

Chart: Thailand, TBDC Government Bond Yield Curve



2.3. Government Bonds Issued for Recapitalization

The Value of Recapitalization Bonds

After the financial crisis (1998-2000), the government issued a substantial amount of bonds to support recapitalization of financial institutions. In 1998, the amount of government bonds issued was B400 billion. All of the bonds were issued for FIDF (Table 14). In 1999, the government further issued B297.8 billion of recapitalization bonds, of which 84% was for the FIDF, 13% for banks and 3% for finance companies. In total, recapitalization bonds accounted for 89% of total government bonds issued.

Table 14: Thailand, Government Bonds Issued for Recapitalization (Billions of Baht): 1998-2000

Types of Government Bonds	1998	1999	2000
for FIDF	400	100	-
% Registered in TBDC	(100.0)	(30.1)	-
for Reopen FIDF	-	149	-
% Registered in TBDC	-	(44.8)	-
for Tier 1 & 2	-	-	-
- for Banks	-	39	25
% Registered in TBDC	-	(11.0)	(44.9)
- for Finance Companies	-	10	0.3
% Registered in TBDC	-	(2.9)	(0.6)
Total Recapitalization Bonds	400	298	25
Total Government Bonds	400	333	55
% of Registered Recap. Bonds to Total Recapitalization Bonds	(100.0)	(89.5)	(45.4)

Note: "-" means no activity.

1 Refinance for FIDF Bonds.

Source: Bank of Thailand.

In 2000, the amount of recapitalization bonds declined to B25 billion, accounting for 45% of total government bonds issued. Almost all the capitalization bonds were issued for banks.

Maturity of Recapitalization Bonds

The maturity of recapitalization bonds issued for the FIDF ranged from one to 15 years (Table 15), but the majority of the bonds (about 60% to 70%) have a maturity of less than seven years. On the other hand, recapitalization bonds issued for banks and finance companies were all 10-year bonds.

Table 15: Thailand, Maturity of Government Bonds Issued for Recapitalization (Billions of Baht): 1998-2000

Years)	1998			1999			2000		
	FIDF	Bank	Non-Bank	FIDF ¹	Bank	Non-Bank	FIDF	Bank	Non-Bank
1	150	-	-	-	-	-	-	-	-
2	20	-	-	49	-	-	-	-	-
3	50	-	-	60	-	-	-	-	-
4	-	-	-	30	-	-	-	-	-
5	60	-	-	40	-	-	-	-	-
6	-	-	-	30	-	-	-	-	-
7	50	-	-	-	-	-	-	-	-
8	20	-	-	-	-	-	-	-	-
10	50	-	-	-	39	10	-	25	0
12	-	-	-	20	-	-	-	-	-
15	-	-	-	20	-	-	-	-	-
Total	400	-	-	249	39	10	-	25	0

Note: “-” means no activity.

1. Including Bonds for Reopened FIDF.

Source: Bank of Thailand.

Investors of Recapitalization Bonds

Commercial banks were the main investors in recapitalization bonds, holding 37% of the total outstanding value in 1998. This proportion further increased to 42% in 1999 and 46% in 2000. The Government Savings Bank also held a significant proportion of recapitalization bonds, accounting for 17% to 20% of the total issued in 1999-2000 (Table 16).

The Secondary Market for Recapitalization Bonds

All recapitalization bonds issued for the FIDF were registered in the TBDC and trading has been very active. The turnover ratio was 63% in 1999 and this further increased to 175% in 2000. In contrast to the recapitalization bonds issued for the FIDF, those issued for banks and finance companies were held to increase their capital base. These types of recapitalization bonds were not registered in the TBDC (Tables 17 and 18).

**Table 16: Thailand, Investors in Recapitalization Bonds
(Billions of Baht): 1998-2000¹**

Type of Investors	1998	1999	2000 (Jun.)
Bank of Thailand	55	86	72
Proportion (%)	(13.9)	(15.8)	(12.7)
FIDF	80	-	-
Proportion (%)	(20.0)	-	-
Commercial Banks	148	229	262
Proportion (%)	(37.1)	(41.8)	(46.1)
Government Savings Bank	28	107	99
Proportion (%)	(7.1)	(19.5)	(17.4)
Other Financial Institutions	60	45	44
Proportion (%)	(14.9)	(8.2)	(7.7)
Insurance Companies	7	32	35
Proportion (%)	(1.8)	(5.8)	(6.2)
Others^{2/}	21	49	56
Proportion (%)	(5.2)	(8.9)	(9.9)
Total	400	547	568
Proportion (%)	(100.0)	(100.0)	(100.0)

Note: “-” means no activity.

1. Recapitalization bonds include bonds for the FIDF and bonds for financial sector restructuring.
2. Other investors include non-bank institutional investors, such as mutual funds, provident funds, pension funds, etc., corporations and individuals.

Source: Bank of Thailand.

**Table 17: Thailand, Values of Registered Recapitalization Bonds
in the TBDC (Billions of Baht): 1998-2000¹**

Types of Government Bonds	1998	1999	2000
For FIDF	400	100	-
% Registered in the TBDC	(100.0)	(100.0)	-
For Reopen FIDF	-	149	-
% Registered in the TBDC	-	(100.0)	-
Total Registered Recap. Bonds	400	249	-
Total Recapitalization Bonds	400	298	25
% of Registered Recap. Bonds to Total Recapitalization Bonds	(100.0)	(83.6)	-

Note: 1. All Government Bonds (exclude Bonds for Tier 1 & 2) are automatically registered in the TBDC.

2. “-” means no activity.

Source: The Thai Bond Dealing Center.

**Table 18: Thailand, Turnover Ratios of Registered Recapitalization Bonds in the
TBDC: 1998-2000¹**

Government Bonds ²	1998	1999	2000
Trading Values (Billions of Baht)	43	341	1,028
Outstanding Values (Billions of Baht)	330	539	586
Turnover Ratios (%)	13.0	63.3	175.3

Note: 1. Turnover Ratio = Yearly Trading Value/ Outstanding Value.

2. Since the outstanding value of Registered Recapitalization Bonds in the TBDC is almost equal to Total Government Bonds that registered in the TBDC, the Turnover Ratios of Registered Recapitalization Bonds are estimated from: Yearly Trading Value of Government Bonds/ Outstanding Value of Government Bonds.

Source: The Thai Bond Dealing Center.

3. Corporate Debt Securities

3.1. The Primary Market

Value of Corporate Bond Offerings

The issuance of corporate bonds as an alternative source of funding became more important to business firms in 1995-1996. The total value of new issues was B86.7 billion in 1995 and B132.9 billion in 1996 (Table 19). However, during 1997-1998, the value of corporate bonds issued dropped sharply. In 1997, the value was B40.9 billion, a decline of about 69% compared to 1996. In 1998, the figure further declined to B36.3 billion, decreasing 72% from the high level of B132.9 billion in 1996. However, the downward trend has reversed since 1999, when the value of new corporate bonds issued was B315.9 billion, an increase of 771% from that of 1998. During the first three quarters of 2000, the value of new corporate bond offerings was still at a high level of B125.6 billion.

Table 19: Thailand, Values of Corporate Bond Offerings by Type (Billions of Baht): 1995-2000

Type of Bonds	1995	1996	1997	1998	1999	2000 (Jan-Sep.)
Straight Issues	71	92	38	30	308	119
Proportion (%)	(81.4)	(69.4)	(93.2)	(82.9)	(97.5)	(94.6)
Convertible Issues	16	41	3	6	8	7
Proportion (%)	(18.6)	(30.5)	(6.8)	(17.1)	(2.4)	(5.3)
Total	87	133	41	36	316	126
Proportion (%)	(100.0)	(100.0)	(100.0)	(100.0)	(100.0)	(100.0)

Source: Securities and Exchange Commission.

Types of Corporate Bonds Issued

Corporate bonds issued by companies in Thailand may be classified into two major types, as follows: (1) straight issues, and (2) convertible issues. Each type of bond may be sub-categorized according to whether they are secured or unsecured, and subordinated or unsubordinated.

Straight issues are the major type of securities issued in the bond market. The issuance of convertible debentures used to be popular in 1995-1996, during which the value of convertible debentures accounted for 18.6% of the total value of new corporate bonds issued in 1995 and 30.5% in 1996 (Table 19). However, after the financial crisis, only a few companies issued convertible debentures in the primary market. In 1999, the value of convertible debentures issued in the primary market was 2.4% of total corporate bonds issued.

The Markets for Corporate Bonds

In 1995-1997, corporate bond offerings were placed in domestic and overseas markets. In 1995, the proportion offered in the domestic market was about 55% of the total value and about 45% in the overseas markets (Table 20). In 1996-1997, the

proportion of corporate bonds offered in the overseas market increased significantly to 67% to 69% of the total. However, after 1997, almost all new corporate bonds issued were offered in the domestic market.

Table 20: Thailand, Values of Corporate Bond Offerings by Market (Billions of Baht): 1995-2000

Market	1995	1996	1997	1998	1999	2000 (Jan.-Sep.)
Domestic	48	43	12	36	289	122
% of Total	(54.8)	(32.5)	(30.5)	(100.0)	(91.6)	(97.5)
Overseas	39	90	28	-	27	3
% of Total	(45.2)	(67.5)	(69.5)	-	(8.4)	(2.5)
Total	87	133	41	36	316	126
% of Total	(100.0)	(100.0)	(100.0)	(100.0)	(100.0)	(100.0)

Source: Securities and Exchange Commission.

Currency Denomination of Overseas Issues

In 1995-1996, corporate bonds offered overseas were mainly denominated in US dollars, amounting to US\$2.3 billion in 1995 and US\$3.9 billion in 1996 (Table 21). The value accounted for more than 90% of the total corporate bonds offered overseas during each year. In 1997, corporate bonds offered in overseas markets included yen denomination bonds to a value of Y82 billion and US dollar denomination bonds to a total value of US\$460 million. Yen denomination bonds accounted for 60% and US dollar denomination bonds 40% of the total corporate bonds offered overseas. After 1997, corporate bonds offered overseas were all in US dollars, amounting to US\$700 million in 1999 and US\$80 million in 2000 (January-September).

Table 21: Thailand, Currency Denomination of Corporate Bonds Offered in Overseas Markets, 1995-2000

Currency	Value (Billions of Baht)						% of Total Corporate Bonds Offered Overseas					
	1995	1996	1997	1998	1999	2000 (Jan.-Sep.)	1995	1996	1997	1998	1999	2000
USD	2	4	0.5	-	1	0.1	97	92	42	-	100	100
Yen	-	37	82	-	-	-	-	8	58	-	-	-
Baht	2	-	-	-	-	-	3	-	-	-	-	-

Note: Data of 1995-1997 are approved values of bonds offered overseas; data of 1998-2000 are actual public offering and private placement values; proportions are calculated on US\$ base.

Source: Securities and Exchange Commission.

Maturity Structure

In 1995-1997, corporate bonds with a maturity of 10 years or more accounted for 40% to 78% of those issued. After 1997, corporate bonds were relatively short term, with maturities of two years, three years, five years and seven years forming the majority. In

total, corporate bonds with maturities of less than 10 years accounted for about 89% or more of the total value of bonds issued each year in the period 1998-2000 (Table 22).

Table 22: Thailand, the Maturity Structure of Corporate Bonds, 1995-2000

Maturity (Years)	Value of Issues (Billions of Baht)						Percent of Total					
	1995	1996	1997	1998	1999	2000 (Sep.)	1995	1996	1997	1998	1999	2000 (Sep.)
1 Year	-	-	-	3	6	2	-	-	-	7.6	2.6	1.4
2 Years	-	1	-	2	27	22	-	0.6	-	5.5	12.5	18.9
3 Years	6	6	4	7	35	35	8.8	4.9	11.0	20.2	16.4	29.8
4 Years	2	2	-	-	8	3	2.4	2.0	-	-	3.7	2.4
5 Years	31	14	17	2	61	20	46.3	12.1	48.8	5.0	28.5	16.8
6 Years	-	-	-	-	0.4	27	-	-	-	-	0.2	22.6
7 Years	1	3	-	22	43	3	1.6	2.7	-	61.6	20.2	2.7
8 Years	-	-	-	-	10	-	-	-	-	-	4.6	-
9 Years	-	-	-	-	-	-	-	-	-	-	-	-
10 Years	28	65	9	0.1	12	3	41.0	56.5	24.3	0.1	5.4	2.8
10 Years up	-	24	6	-	13	3	-	21.2	15.9	-	5.9	2.7
Total	68	115	36	36	215	118	100.0	100.0	100.0	100.0	100.0	100.0

Note: Data of 1995-1997 are approved public offering values and approved offering values in the overseas market; data of 1998-2000 are actual public offering and private placement values.

Source: Securities and Exchange Commission.

Coupon Payment

Coupon payment of corporate bonds may be in the form of fixed rate coupons, floating rate coupons, or combined rate (with fixed rate and floating rate) coupons. The values of floating rate coupon issues were higher than fixed rate issues in 1995, 1997 and 1998, during which interest rates in the money market were high. After 1998, the money market experienced high liquidity and interest rates declined to stand at historic low levels over the past decade. This prompted business companies to issue fixed rate coupon bonds or combined rate coupon bonds. The proportion of fixed rate coupon bonds accounted for 81% in 1999 and 58% in 2000 of total corporate bonds issued, while combined rate coupons became more widespread in 2000, accounting for 33% of the total (Table 23).

Table 23: Thailand, Coupon Payment of Corporate Bonds, 1995-2000

Type of Coupon	Value of Issues (Billions of Baht)						Percent of Total					
	1995	1996	1997	1998	1999	2000 (Sep.)	1995	1996	1997	1998	1999	2000 (Sep.)
Fixed Rate	29	93	15	12	209	66	42.2	81.0	43.1	32.8	80.9	57.9
Floating Rate	39	22	20	24	29	10	57.8	19.0	56.9	67.2	11.4	9.2
Mixed with Fixed and Floating Rate	-	-	-	-	4	38	-	-	-	-	1.4	33.0
Discount	-	-	-	-	16	-	-	-	-	-	6.4	-
Total	68	115	36	36	258	114	100.0	100.0	100.0	100.0	100.0	100.0

Note: Data of 1995-1997 are approved public offering values and approved offering values in the overseas market; data of 1998-2000 are actual public offering and private placement values.

Source: Securities and Exchange Commission.

Major Issuers

During 1995-1996, banks were the major issuers of corporate bonds in the bond market, accounting for 26%-35% of the total that were approved to make public offerings (Table 24).

Table 24: Thailand, Values of Corporate Bonds Issued by Industry: 1995-2000

Industry	Value of Corporate Bonds (Millions of Baht)						Percent of Total Corporate Bonds					
	1995	1996	1997	1998	1999	2000 (Jan - Sep)	1995	1996	1997	1998	1999	2000
1 Agribusiness	2,497	-	-	-	5,200	7,249	3.6	-	-	-	1.6	5.8
2 Banking	18,526	41,138	-	27,510	184,557	15,384	26.4	35.0	-	75.9	58.4	12.2
Commercial Banks	18,526	41,138	-	20,000	168,455	9,244	26.4	35.0	-	55.2	53.3	7.4
Non-Commercial Banks	-	-	-	7,510	16,102	6,140	-	-	-	20.7	5.1	4.9
3 Building & Furnishing Materials	4,296	7,922	-	-	56,800	41,300	6.1	6.7	-	-	18.0	32.9
4 Chemicals & Plastics	-	-	-	500	1,600	700	-	-	-	1.4	0.5	0.6
5 Commerce	26,213	5,333	3,933	-	12,570	-	37.4	4.5	11.0	-	4.0	-
6 Communication	6,187	24,886	5,667	6,420	4,500	10,000	8.8	21.2	15.9	17.7	1.4	8.0
7 Electrical Products & Computer	325	400	-	-	-	900	0.5	0.3	-	-	-	0.7
8 Electronic Components	-	-	-	-	-	-	-	-	-	-	-	-
9 Energy	-	16,896	3,961	237	12,930	11,810	-	14.4	11.1	0.7	4.1	9.4
10 Finance & Securities	120	11,652	-	1,281	5,157	5,202	0.2	9.9	-	3.5	1.6	4.1
11 Foods & Travel Services	-	-	-	-	2,400	264	-	-	-	-	0.8	0.2
12 Health Care Services	-	-	-	-	-	2,000	-	-	-	-	-	1.6
13 Hotels & Travel Services	-	-	-	-	900	1,700	-	-	-	-	0.3	1.4
14 Household Goods	-	1,524	-	-	-	3,152	-	1.3	-	-	-	2.5
15 Leasing	-	-	17,427	-	350	17,500	-	-	48.8	-	0.1	13.9
16 Machinery & Equipment	-	-	-	-	-	370	-	-	-	-	-	0.3
17 Others	-	1,016	-	-	22,558	2,575	-	0.9	-	-	7.1	2.1
18 Packaging	-	-	-	-	-	-	-	-	-	-	-	-
19 Printing & Publishing	-	-	-	-	500	500	-	-	-	-	0.2	0.4
20 Property Development	8,098	3,682	-	309	1,421	5,001	11.5	3.1	-	0.9	0.4	4.0
21 Pulp & Paper	-	3,047	4,722	-	-	-	-	2.6	13.2	-	-	-
22 Textiles	2,497	-	-	-	1,700	-	3.6	-	-	-	0.5	-
23 Transportation	1,373	-	-	-	1,000	-	2.0	-	-	-	0.3	-
24 Vehicles & Parts	-	-	-	-	1,717	-	-	-	-	-	0.5	-
	70,130	117,495	35,710	36,257	315,859	125,606	100.0	100.0	100.0	100.0	100.0	100.0

Note: Data of 1995-1997 are approved public offering values and approved offering values in the overseas market; data of 1998-2000 are actual public offering and private placement values.

Source: Securities and Exchange Commission.

Apart from the banking sector, businesses in commerce, communication, energy and property were also important corporate bond issuers. In 1997, there were only seven issues of corporate bonds approved to make public offerings, of which firms in the leasing sector were the dominant issuers. After the financial crisis (1998-1999), banks were the dominant issuers of corporate bonds, accounting for 76% of the total value of new bonds issued in 1998 and 58% in 1999.

During the first three quarters of 2000, companies in the building and furnishing material sector became the most important issuers in the market. They issued about B41.3 billion in bonds, accounting for 33% of the total new bonds issued. The other main issuers were in the banking, leasing, energy, communication and agribusiness sectors.

Major Investors

Institutional and high net-worth investors have formed the most important investor group for newly issued corporate bonds, accounting for 97% and 99% of the total in 1995 and 1999, respectively. Among the group, foreign investors were predominant in 1995 but played only a limited role after the financial crisis (Table 25).

Table 25: Thailand, Investors in Newly Issued Corporate Bonds (Billions of Baht, Percent): 1995-1998

	1995	1999	1995	1999
Institutional Investors & High-Networth Investors	84,103	314,652	97.0	99.6
Domestic Investors	27,214	287,801	31.4	91.1
Foreign Investors	56,889	26,851	86.1	8.5
Retail Investors	2,627	1,206	4.0	0.4
Domestic Investors	1,619	1,201	2.5	0.4
Foreign Investors	1,008	5	1.5	0.0
Total Value of New Issues	86,730	315,858	100.0	100.0

Note: Data of 1995-1997 are approved public offering values and approved offering values in the overseas market; data of 1998-2000 are actual public offering and private placement values.
Source: Securities and Exchange Commission.

3.2. The Secondary Market for Corporate Bonds

Outstanding Value

The outstanding value of corporate bonds in the TBDC increased markedly during 1995-1997, from B89 billion in 1995 to about B133 billion in 1997, rising about 49% (Table 26). The value declined slightly to B125.8 billion in 1998, but increased rapidly in 1999-2000 as blue-chip companies started raising funds through bond issuance and most investors looked for an alternative means of investment to replace low-interest bank deposits. At the end of the third quarter of 2000 the outstanding value of corporate bonds in the TBDC reached a high of B205 billion.

Table 26: Thailand, Outstanding Values and Trading Values of Corporate Bonds in the TBDC: 1995-2000

	Outstanding Value (Billions of Baht)	% of Total Outstanding Value	Trading Value of Corporate Bonds (Billions of Baht)	% of Total Trading Value of Registered Bonds
1995	89	91.3	51	98.2
1996	130	87.6	196	97.6
1997	133	78.4	91	85.7
1998	126	16.5	9	12.3
1999	179	16.5	33	7.7
2000 (Jan.-Sep.)	206	17.4	55	5.7

Source: The Thai Bond Dealing Center.

Trading Value

There was active trading of corporate bonds in the TBDC during 1995-1997, as corporate bond trading value increased from B50.6 billion in 1995 to B195.8 billion and B91 billion in 1996 and 1997, respectively (Table 26). Trading slowed down after the financial crisis, especially in 1998 when the trading value dropped to B8.9 billion. In 2000, the trading value of corporate bonds recovered to B55.4 billion. The turnover ratio of corporate bonds in the TBDC also decreased drastically from a range of 56% to 150% in 1995-1997 to lower than 36% after 1997 (Table 27).

Table 27: Thailand, Turnover Ratios of Corporate Bonds in the TBDC (Percent): 1995-2000

Year	Turnover Ratio *
1995	56.7
1996	150.4
1997	68.6
1998	7.1
1999	18.3
2000 (Jan.-Sep.) **	35.9

Note: Turnover Ratio = Yearly Trading Value / Outstanding Value.
Source: The Thai Bond Dealing Center.

3.3. The Role of Banks in the Bond Market

As the main corporate issuers and major investors, banks play an important role in bond market development. Further, banks are active financial intermediaries, heavily engaging in bond underwriting and dealing. However, in Thailand, banks do not act as guarantors of corporate bonds.

Banks as Bond Issuers

Commercial banks were the main issuers of corporate bonds both before and after the financial crisis. In 1995-1996, corporate bonds issued by commercial banks accounted for 26-35% of the total (Table 28). Funds raised by commercial banks through the bond market during this period enabled them to increase their investment capacity to accommodate investment opportunities amid a high growth economy. After the financial crisis (1998-1999), commercial banks were the dominant issuers in the corporate bond market, accounting for 55% in 1998 and 53% in 1999 of the total value of corporate bonds issued. The main type of bonds issued by commercial banks was subordinated debentures through which banks could increase their tier-2 capital base.

Banks as Bond Investors

Commercial banks were the major investors in government debt securities both before and after the financial crisis. In 1995-1996, commercial banks held about 53-59% of the total outstanding value of government debt securities (Table 29). One of the important incentives for commercial banks to hold government debt securities was that they could be counted as liquid assets to meet liquidity reserve requirements. After the financial crisis,

commercial banks still held a high proportion (about 40%-43%) of government debt securities, in an effort to reduce excess liquidity.

Table 28: Thailand, Values of Corporate Bonds Issued by Commercial Banks (Millions of Baht): 1995-2000

Year	Banking Sector	Total Value of Corporate Bonds	Percent of Total
1995	18,526	70,130	26.4
1996	41,138	117,495	35.0
1997	0	35,710	-
1998	20,000	36,257	55.2
1999	168,455	315,859	53.3
2000 (Jan.-Sep.) **	9,244	125,606	7.4

Note: Data of 1995-1997 are approved public offering values and approved offering values in the overseas market; data of 1998-2000 are actual public offering and private placement values.
Source: Securities and Exchange Commission.

Table 29: Thailand, Values of Government Debt Securities Held by Commercial Banks (Billions of Baht): 1995-1999

Year	Commercial Banks	Total Value of Government Debt Securities	% of Total
1995	166	281	59.1
1996	158	296	53.2
1997	137	308	44.5
1998	282	713	39.6
1999	415	965	43.0
2000 (Jan.-Sep.) **	438	1,008	43.4

Note: Data of 1995-1997 are approved public offering values and approved offering values in the overseas market; data of 1998-2000 are actual public offering and private placement values.
Source: Securities and Exchange Commission.

In the corporate bond market, it is difficult to estimate the proportion of corporate bonds held by commercial banks because there is no central registrar to provide systematic information, as is the case with government debt securities. However, it is considered that banks are also significant investors in corporate bonds as almost all corporate bonds are held by institutional and high-net-worth investors.

Banks as Bond Underwriters

Banks were permitted to engage in bond underwriting in 1993. In 1995, they played a very limited role in this regard. The proportion of the bond underwriting value by banks, which were among the top five lead underwriters of corporate bonds, accounted for only 4.3% of the total value of registered bonds in the TBDC (Table 30). In 2000, the proportion increased to 46%, indicating that banks have played a more important role as bond underwriters since the financial crisis.

Table 30: Thailand, Top 5 Underwriters for Corporate Debt Securities Registered in the TBDC: 1995 and 2000

Year	Rank	Lead Underwriter	Value	% of the
1995	1	Phatra Thanakit Public Co., Ltd.	3,595	30.9
	2	Thana One Finance & Securities Co., Ltd.	3,595	30.9
	3	First Bangkok City Finance Co., Ltd.	1,750	15.0
	4	Bangkok First Investment & Trust Public Co., Ltd.	500	4.3
	5	Siam Commercial Bank Plc.	500	4.3
	Total		Finance and Securities as the Lead Underwriters	9,440
		Banks as the Lead Underwriters	500	4.3
2000	1	Siam Comercial Bank Plc.	11,955	21.1
	2	Citicorp Securities (Thailand) Ltd.	10,333	18.2
	3	Thai Military Bank Plc.	7,650	13.5
	4	ABN-AMRO Bank N.V.	6,500	11.4
	5	Jardine Fleming Thanakorn Securities Ltd.	3,650	6.4
	Total		Finance and Securities as the Lead Underwriter	13,983
		Banks as the Lead Underwriter	26,105	46.0

Source: The Thai Bond Dealing Center.

Banks as Bond Dealers

Banks are major dealers in the secondary bond market, accounting for the majority of the recorded most active dealers in the TBDC during 1998-2000 (Table 31).

Table 31: Thailand, Most Active Dealer-members in the TBDC: 1998-2000

	Banking Sector	Securities
1998 Apr. – Dec.)	1 ABN-Amro Bank N.V.	1 Dhana Siam Sec. Co. Ltd.
	2 Bangkok Bank Plc.	2 Merrill Lynch Phatra Sec. Co., Ltd.
	3 Bank of Asia Plc.	3 TISCO Securities Co. Ltd.
	4 Citibank N.A.	
	5 Deutsche Bank A.G.	
	6 Siam Commercial Bank Plc.	
1999	1 ABN-Amro Bank N.V.	1 Merrill Lynch Phatra Sec. Co., Ltd.
	2 Bangkok Bank Plc.	
	3 Bank of Asia Plc.	
	4 Citibank N.A.	
	5 Deutsche Bank A.G.	
	6 Siam Commercial Bank Plc.	
	7 Thai Farmers Bank Plc.	
	8 The Hongkong & Shanghai Banking Corp., Ltd.	
2000	1 ABN-Amro Bank N.V.	1 KGI Securities ONE Plc.
	2 Bangkok Bank Plc.	2 Merrill Lynch Phatra Sec. Co., Ltd
	3 Bank of Asia Plc.	
	4 Citibank N.A.	
	5 Deutsche Bank A.G.	
	6 Standard Chartered Bank.	
	7 Siam Commercial Bank Plc.	
	8 Thai Farmers Bank Plc.	
	9 The Hongkong & Shanghai Banking Corp., Ltd.	

Note: Active dealer-members are selected from those trading value reported to Thai BDC represent at least 4% of total market value.

Source: The Thai Bond Dealing Center.

Banks as Bond Guarantors

Banks do not act as guarantors of corporate bonds in Thailand. In 1995-1997, all secured bonds issued by businesses were asset-backed bonds. In 1999-2000, there were some secured bonds, which were guaranteed bonds. However, the guarantors were almost all parent companies or related companies of the bond issuing companies (Table 32).

Table 32: Thailand, Types of Secured Bonds (Billions of Baht, Percent): 1995-2000

Secured Bonds	1995	1996	1997	1998	1999	2000 (Sep.)
Secured By:						
Asset	3,098	14,864	6,707	-	22,608	2,200
% of Total Secured	100	100	100	-	67	39
Guarantors	-	-	-	-	11,070	3,500
% of Total	-	-	-	-	33	61
Banks	-	-	-	-	-	-
Non-Banks	-	-	-	-	-	-
Total Secured Bonds	3,098	14,864	6,707	-	33,678	5,700

Note: Data of 1995-1997 are approved public offering values and approved offering values in the overseas market; Data of 1998-2000 are actual public offering and private placement values.
Source: Securities and Exchange Commission.

3.4. Issues Concerning Bond Market Development

There are several issues connected with the bond market that need to be tackled in order to promote better development. These include supply, demand and legal regulations that may impede bond market development.

Supply of Bonds

(1) Supply of Government Bonds

The issuance of government bonds is restricted by the budget law, under which the government can issue bonds only when it has a budget deficit. In accordance with the law, the government did not issue bonds in 1987-1997, when there was a budget surplus. In the future, if the government has a budget surplus, it will not be in a position to issue bonds. This will affect the supply of bonds as well as the risk-free benchmark yield curve.

(2) Supply of Corporate Bonds

Corporate bonds as an alternative source of funding tend to be costly to issue if the issuing size is small. Consequently, firms that can access this source of funding tend to be mostly large, leading firms. Yet in Thailand, small- and medium-size businesses account for more than 90% of the total number of businesses. The limited number of large firms is one of the most important factors affecting the supply of corporate bonds.

Demand for Bonds

(1) Individual Investors

Individual investors play a limited role in the bond market, due to the following factors. First, investment in the bond market is more sophisticated compared to bank deposits and individual investors tend to avoid sophisticated financial instruments. Second, the tax system discourages individual investors. With coupon bonds, individual investors have to pay 15% withholding tax on both capital gain and interest rate income. With zero coupon bonds, the first individual investor has to pay 15% withholding tax on the difference between the buying price and the redemption value.

(2) Non-Bank Institutional Investors

The non-bank institutional investor base is relatively small, because of the following factors. First, the asset management industry has a relatively short history compared to the banking sector (for example, private funds and pension funds were established only in 1997). Individual investors are not familiar with savings through mutual funds, provident funds or private funds. Second, after the financial crisis, mutual fund holders experienced high losses as the net asset value of mutual funds drastically declined. Investors thus lost confidence in mutual funds as a means of saving. Third, mutual fund license regulations restrict the number of asset management companies, which directly affect the number of players and competition in the industry and indirectly affect the growth of the industry. However, mutual fund license regulations are expected to be liberalized in the near future.

Laws and Regulations

(1) Transaction Tax

The Special Business Tax (SBT) adversely affects liquidity in the secondary bond market as the tax charges 3% on all bond transactions on a gross basis. The SBT discourages trading activities of market dealers and market makers.

(2) Liquidity Requirements Imposed on Banks and Finance Companies

Commercial banks and finance companies must hold liquid assets to meet liquidity reserve requirements. The liquid assets as prescribed by the BOT include deposits at the BOT, cash in hand at commercial banks and government debt securities.

Commercial banks and finance companies have more incentive to hold government debt securities as liquid assets, as they are interest-earning assets. As a result, a portion of government debt securities will be kept out of the market and this reduces the liquidity of bonds. In 1987-1997, when the government did not issue bonds, the holding of government bonds to meet liquidity reserve requirements severely affected trading in the government bond market.

(3) Prudential Regulations Imposed on Asset Portfolios

Institutional investors such as insurance companies, provident funds, mutual funds, etc., are subject to prudential regulations on asset portfolios. Prudential regulations impose restrictions on corporate bond investment and to a certain extent affect the trading activities of institutional investors in the secondary bond market.

(A) Insurance Companies

- a) Investment in any particular company's corporate bonds must not exceed 10% of the total value of bonds issued by the company.
- b) Investment in corporate bonds issued by insurance companies must not exceed 10% of total assets.
- c) Investment in corporate bonds issued by non-insurance companies must not exceed 30% of total assets.

(B) Provident Funds

Investment in any company's corporate bonds must not exceed 5% of total funds.

(C) Mutual Funds

- a) Investment in any company's corporate bonds must not exceed 5% of total net asset value.
- b) Investment in corporate bonds that are not rated in the first four rankings from a credit rating agency are subject to an investment ceiling not exceeding 15% of total net asset value.

4. Conclusion

The Thai bond market has developed significantly since the enactment of the Securities and Exchange Act BE 2535 in 1992. In 1995-1996, the market's development was largely supported by rapid corporate bond market growth. Leading businesses increasingly started to issue corporate bonds as an alternative source of funding. The total value of corporate bonds issued increased markedly, reaching a high of about B133 billion in 1996. There was also active trading of corporate bonds in the secondary market, especially in 1996 when the turnover ratio of corporate bonds in the TBDC reached a high of 150%.

In contrast to the corporate bond market, the government bond market was relatively inactive before the financial crisis. The government did not issue bonds between 1987 and 1997 due to the budget surplus. The holding of government bonds as liquid assets to meet liquidity reserve requirements by banks and finance companies further reduced the liquidity of government bonds in the secondary market.

After the financial crisis (1998-1999), the government and businesses became important bond issuers. The government issued B400 billion of bonds in 1998 and B333 billion in 1999. Almost all of the government bonds issued in 1998-1999 were recapitalization bonds, intended for the FIDF, banks and finance companies. The value of

corporate bonds issued also reached a high of B315.9 billion in 1999. The Thai bond market grew rapidly after the financial crisis on the back of these massive issuances.

There are several important issues that have to be focused on to promote future bond market development. These include addressing the limited number of corporate bond issuers, the government's limitation of issuing of bonds only when there is a surplus budget, the tax system that discourages individual investors and trading by market dealers/makers, and the prudential regulations imposed on asset portfolios.

Appendix IV. Case of Indonesia

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1. Introduction

Bonds are less popular as a source of corporate financing in Indonesia than bank or equity financing. Internationally, the market for Indonesian bonds is small when compared to other East Asian countries, while domestically, their development has lagged behind new emerging equity/stocks and traditional bank financing. Financial market deregulation since the 1980s has done little to promote bond market development.

The value of bonds listed and traded in Indonesia is relatively small. In addition, there is little market liquidity, as bond investors are mostly institutional and hold them until maturity. Also, issuers tend to have weak credibility and this is reflected in the ratings issued. Further, the infrastructure—both physical and legal—is at an early stage of development. For instance, the bond clearing and settlement system is carried out by physical delivery. A broader issue to be faced is the relation between this underdevelopment and the low income per capita and income distribution of Indonesia.

However, as was shown by the regional financial crisis, the bond market needs to be developed in order to deal with currency and maturity term mismatches. This appendix seeks to address some of these and other issues surrounding bond development in Indonesia.

2. Financial Pattern

The Corporate Financing Pattern of Business Investment

In analyzing the source of finance of firms according to total outstanding external finance, it can be seen that the post-crisis years of 1997-2000 present a special case. During this period, bank recapitalization has been taking place. As a consequence of government bailouts, the value of stocks has increased dramatically due to additional rights issues for recapitalization. About Rp125.5 trillion—or 65% of total rights issues in 1997-2000—comprised bank recapitalization. About 90% of those rights issues were securities or government bonds.

The main source of financing for investment in Indonesia is banks. In 1990-1998, the percentage of bank financing in total financing varied between 81% and 91%. But it has tended to decline as use of other capital market instruments has grown. In subsequent years, as the crisis hit, bank financing declined in terms of nominal value. This decline was not only a result of the crisis, but was also caused by the central bank's high interest rate policy.

The percentage of corporate bonds, however, has increased by only a small amount, from 0.5% in 1990 to 4.4% in 2000. In term of nominal value, up to 1997—before the crisis—there was a significant growth (from Rp420 billion in 1990 to Rp15,605 billion in 1997). Yet right after the crisis, the amount decreased to Rp14.5 billion in 1998 before increasing again sharply in 1999-2000 (Table 1).

Table 1: Indonesia, Total Issuance of Shares, Outstanding Bonds and Bank Finance (Billions of Ruppiah, Percent): 1990-2000

Year	Shares	Bonds	Ban Financing	Total
1990	8,009 (10.1)	420 (0.5)	70,873 (89.4)	79,302 (100.0)
1991	8,976 (8.2)	420 (0.4)	99,689 (91.4)	109,085 (100.0)
1992	11,162 (8.7)	2,036 (1.6)	115,739 (89.8)	128,937 (100.0)
1993	16,065 (9.4)	3,941 (2.3)	150,271 (88.3)	170,277 (100.0)
1994	26,529 (12.0)	4,870 (2.2)	188,880 (85.8)	220,279 (100.0)
1995	35,395 (12.8)	7,431 (2.7)	234,611 (84.6)	277,437 (100.0)
1996	49,981 (14.2)	9,697 (2.8)	292,921 (83.1)	352,599 (100.0)
1997	70,880 (15.3)	15,605 (3.4)	378,134 (81.4)	464,619 (100.0)
1998	75,947 (13.1)	14,505 (2.5)	487,426 (54.4)	577,878 (100.0)
1999	206,687 (46.3)	15,909 (3.6)	224,034 (50.2)	446,630 (100.0)
2000	218,836 (45.6)	21,299 (4.4)	240,135 (50.0)	480,270 (100.0)

Note: () refers to percent.

Source: Pefindo database, collected from various sources.

Despite the unusual figures for stocks due to the recapitalization program, it can be seen that after the crisis, all sources of financing declined. For instance, the amount of bank financing dropped significantly from Rp487,426 billion in 1998 to Rp224,034 billion and Rp240,135 billion in the next two years. Investment activities also slowed down due to the crisis as the impact of the central bank's high interest rate policy took affect. Since 1997, there has been practically no issuance of bonds from the property sector. Yet there was a small swing towards this instrument that boosted the number of outstanding bonds, especially from consumer goods and agriculture firms. Those two sectors faired better than others during the crisis because of their smaller foreign exchange exposure. After the crisis, there have been few new issuances. Issuing bonds amid such economic uncertainty was expensive, as was reflected in the low stock price composite index in those years.

As data for other instruments (retained earnings, private placements, etc.) for all industries are not available, the pattern can be observed from manufacturing industries data as proxy (Table 2).

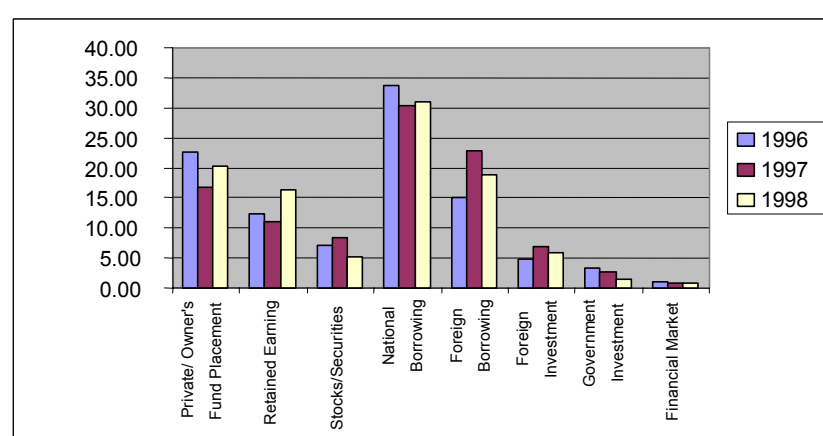
Table 2: Indonesia, Sources of Financing in Realized Investment of Manufacturing Industries (Billions of Rupiah, Percent): 1996-1998

Source of Funds	1996	Percent	1997	Percent	1998	Percent
Private/Owners' Fund Placement	13,373	22.6	20,527	16.8	29,100	20.2
Retained Earnings	7,364	12.4	13,673	11.2	23,404	16.3
Stocks/Securities	4,222	7.1	10,257	8.4	7,544	5.3
National Borrowing	19,973	33.7	37,295	30.4	44,548	31.0
Foreign Borrowing	8,900	15.0	28,035	22.9	27,174	18.9
Foreign Investments	2,813	4.8	8,410	6.9	8,305	5.8
Government Investment	1,956	3.3	3,231	2.6	2,176	1.5
Financial Market	678	1.1	1,110	0.9	1,338	0.9
Total	59,280	100.0	122,538	100.0	143,545	100.0

Source: Statistik Industri, Central Bureau of Statistics, Indonesia.

For the three years of data that are available, the figures for manufacturing industry bonds as a proportion of total stocks and securities are small. In 1996, stocks and/or securities—including bonds—comprised only 7.1% of total investment. This figure increased slightly to 8.4%, but then, as the crisis kicked in, it declined to 5.3% (Chart 1).

Chart 1: Indonesia, Source of Financing in Manufacturing Industries (Percent): 1996-1998



Source: Statistik Industri, Central Bureau of Statistics, Indonesia.

Development of Financial Market

Based on the indicators developed by Sundararajan et al. (1994) on public debt and monetary management in transition economies, Indonesia's financial market could be said to be in transition. This is evident in the level of capital market liberalization, open fund flows, and integration of the interest rate and exchange rate. However, in some aspects, the market is still at a preparatory stage while in others, the market has already reached a developed stage.

Table 3: Indonesia, Transition to Market-based Debt and Monetary Management

	Yes	No
Undeveloped Stage		
- Limited or no domestic government debt outside the central bank	X	
- Fiscal deficit accommodated by money creation		X
Preparatory Stage		
- Introduction of marketable securities, typically Treasury bills sold in auctions	X	
- Interest rates insufficiently flexible and largely controlled by the authorities		X
- No secondary market, weak inter-bank markets	X	
- Development of debt management objectives		X
- Introduction or testing of other indirect instruments of monetary policy (credit auction, bill rediscount, etc.)		X
Transitional Stage		
- Further development of market-based debt and monetary management instruments with greater flexibility in interest rates and more active liquidity management by the central bank	X	
- use of Treasury bills for monetary management	X	
- coordination of Treasury bills and credit auctions for monetary management	X	
- securitization of outstanding claims on government	X	
- replacement of bad loans with government securities	X	
- sterilization of excess reserves	X	
- Introduction of a comprehensive public debt management regime, including medium-term debt securities, with rates set administratively or tied to Treasury bill rates. Build up of volume and widening the range of holders		X
- Strengthening reserve money and debt programming, and related treasury and monetary operations		X
- Planning of regulatory and institutional arrangements for secondary trading (the central bank remains the major source of liquidity to government debt instruments)	X	
- Strengthening of inter-bank markets, and clearing and settlement arrangements	X	
- Review of the adequacy of banking supervision relating to asset-liability management	X	
Developed Stage		
- Interest rates fully flexible	X	
- Expansion of institutional arrangements for secondary markets strengthened by appropriate regulatory and supervisory arrangements	X	
- Liquidity of government debt instruments ensured by the market, with the central bank managing market liquidity at its own initiative, using more flexible market-based instruments		X
- Auctions in medium- and long-term debt instruments		X
- Further expansion of book entry clearing and settlement system, consistent with overall reforms of the payment system	X	

Source: Sundararajan et al. (1994) and LPEM staff modifications.

Before reaching the present stage of development, the market underwent a process of deregulation. As the important complementary of the banking sector, financial market deregulation worked in accordance with that of the banking sector. The purposes are to

promote the mobilization of funds, increase non-oil exports, improve the efficiency of banks and non-bank financial institutions, make monetary policy more effective, and create a climate for capital market development.

Before deregulation, between 1983 and 1987, the Indonesian financial market was inactive. The number of issuers of stocks and bonds remained unchanged at 23 and three, respectively. This was due to strict regulations governing securities issuance that specified:

- a minimum 10% net income equity ratio for the previous year financial performance;
- pricing examined by Bapepam (Capital Market Supervisory Agency);
- strict scrutinizing by Bapepam; and
- prohibition of foreign investors.

Three deregulation moves changed the financial and capital markets in Indonesia; the December 1987 package, the December 1988 package, and the December 1990 package. The first package brought in an open policy for foreign investors, relaxed the 10% limitation net income equity regulation, reduced the registering fee, allowed bearer stocks, and eliminated the maximum 4% price fluctuations limitations and the 30-day deadline for issuance permit processing by Bapepam.

The December 1988 package marked another significant step. It included the establishment of a private stock exchange, the opening of the stock exchange outside Jakarta, establishment of an over-the-counter (OTC) market, and development of finance companies. It also imposed a tax treatment for deposits interest as well as for securities. Further, the package implies the easing of the listing process and allows the process to be managed by a capital market supporting institution, instead of the government. Last, the December 1990 package emphasized investor protection, requiring the full disclosure of any information needed by investors.

These deregulation moves had a big impact on financial market development, especially before the crisis. The influence can be seen from the increased percentage of shares and bonds issued. The exponential growth of those instruments was 85.9% and 33% per annum, respectively. Therefore, comparing these two instruments, it can also be seen that deregulation had less impact on the bond market. Table 4 below charts the improvement of the financial markets.

Table 4: Indonesia, Development of Supporting Institutions in the Capital Markets: 1996-2000

No.	Institutions	1996	1997	1998	1999	2000
1	Securities Companies					
	- Broker-Dealers	111	211	205	201	211
	- Underwriters	100	116	112	110	119
	- Investment Managers	62	60	61	65	70
2	Securities Company Representatives					
	- Broker-Dealers	792	1,188	1,595	1,805	2,465
	- Underwriters	489	781	937	990	1,146
	- Investment Managers	249	449	571	677	765
	- Investment Fund Selling Agents	-	158	177	253	573
3	Custodians	25	29	27	23	19
4	Securities Administration Agencies	13	13	12	11	13
5	Trust Agents	13	16	16	16	15
6	Appraisals	47	53	61	66	88
7	Law Partners	102	173	232	251	338
8	Civil Law Notaries	41	102	119	159	167
9	Accounting Partners	208	226	236	239	256
10	Credit Rating Companies	-	-	1	2	2
11	Investment Advisory Companies	-	-	-	1	1

Source: Bapepam.

After the Crisis

Since almost 60% of companies listed on the stock exchange and more than 60% of bond investors are in the banking sector, the crisis, which hit most of the banks, also had a significant impact on the stock exchange and bond market.

Table 5: Indonesia, Development of the Capital Markets: 1995-2000

	1995	1996	1997	1998	1999	2000
No. of Issuers of Share	248	264	293	300	291	305
No. of Outstanding ssuers of Bonds	43	47	54	42	39	46
No. Of Private Banks	165	164	144	130	92	81
Composite Index						
-JSE	513.8	637.4	401.7	398.0	676.9	416.3
-SSE	366.1	568.6	352.0	351.5	566.6	267.9
Average Interest Rate (%)*						
-SBI	13.3	12.3	17.4	37.8	22.7	11.1
-Inter-Bank 3all Money	13.6	14.1	30.5	64.1	23.6	10.2
-3 Month Time Deposit	17.2	17.0	23.9	49.2	25.7	12.3
-Working Capital	18.9	19.2	22.0	32.3	27.7	19.0
-Investment	15.8	16.4	17.3	23.2	22.2	16.7

Source: Pefindo database, collected from various sources.

During the crisis period (1997 and 1998), the composite index of the Jakarta and Surabaya stock exchanges decreased significantly (Table 5). The figure then rose as the political outlook improved. However, the situation deteriorated again in 2000 as new uncertainties surfaced and the economy showed no signs of significant improvement.

Interest rates were high and the percentage of credit to total funds available in banks decreased significantly. The latter figure stood at 106%, 85%, and 40% in 1997, 1998, and 1999, respectively. This confirmed that banks had excess liquidity due to the high cost of funds; thus the potential of bond development, as an alternative source of investment placement, is large. However, bond transaction data showed a decline in terms of volume and frequency in these respective years. In addition, the numbers of outstanding issuers also declined.

Despite the drop in the composite stock index, there has been a pick-up in bond issuances over the last two years. The business sector seems to be learning from the crisis that a high dependency on bank financing is not appropriate, due to the volatility of interest rates and maturity mismatches. This realization has gone hand in hand with the growth of better performing enterprises that inspire greater confidence in bonds as a source of financing. Recent issuances of corporate bonds seem to have received a positive response from the market.

3. Household Savings Patterns

Data for household saving patterns are taken from the Special Survey on Household Consumption and Investment in 1998 and 1999. Despite incomplete questionnaires concerning savings alternatives, as well as unavailability of data for other years, the figures for bank deposits, securities, insurance, and direct investment can be summarized as shown below. It can be inferred that bank deposits are the most favored saving option, probably because banks have wide networks and thus access to the greatest number of households across the country (Table 6).

In 1998-1999 there was a rise in the amount of savings in securities. Although there is no specific figure for bonds, it is estimated that these expanded in line with general securities. Unfortunately, the impact of the crisis is not shown due to the limitations of the data series.

Table 6: Indonesia, Household Saving Pattern (Millions of Rupiah): 1998-1999

Year	Bank Deposits	Securities		Insurance	Direct Investment
		Stocks/Shares	Others		
1998	539,735,320	2,042	0	6,436,482	35,045,085
1999	658,416,354	524,419	205,595	3,141,199	40,346,613

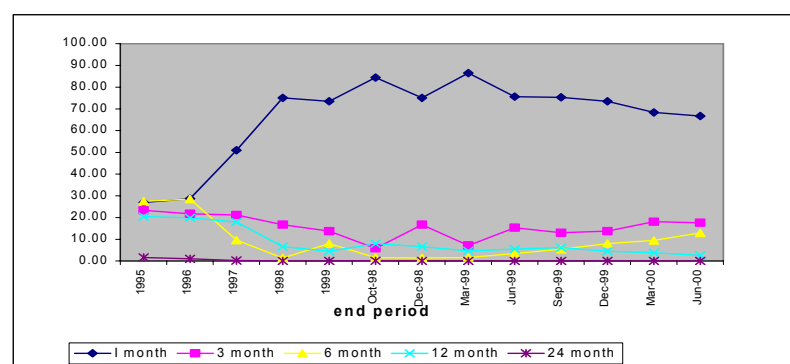
Source: Special Survey on Household Consumption and Investment, Central Bureau of Statistics, Indonesia.

The time terms of savings deposits provide an indication of liquidity preferences. Prior to the crisis, there were only small variations among the time terms of deposits. After

the crisis, the number of one-month time deposits rose dramatically in the wake of the uncertainty and the fact that monetary policy boosted shorter-term interest rates. Deposit holders prefer to save their money in the short term because of liquidity problems and uncertainty. The difference can be seen in the figures before 1997, when the percentage of outstanding one-month deposits to total time deposits was only about 26-28%. After 1997, the figures climbed from 56% to 86% and moved in parallel with the development of time deposits in general (Chart 2).

However, there has been a change since the second quarter of 1999. As interest rates have fallen, shorter-term time deposits have decreased as well as the total number of time deposits. This may be because the investment pattern has shifted towards the consumption of goods due to expectations of high inflation.

Chart 2: Indonesia, Time deposits by Maturity (Percent of Total Outstanding Deposits): 1995-2000



Source: Bank Indonesia.

Savings in capital market instruments have been low, with investors mostly comprising institutional players. Individuals have made up only a small portion of these investors. Unfortunately, there are no data for alternative savings patterns.

4. Features of the Government Bond Market

Government bonds in Indonesia were born by accident. Instead of financing deficits, government bonds have been issued to meet the special needs of bank recapitalization and blanket guarantee policies.

In the case of banking recapitalization schemes, the process worked as follows. To increase the capital adequacy ratio (CAR) of banks to meet the minimum of 4% required new fund injections from the government as equity. To provide those funds, the government issued bonds since there was no fresh money available. The amount equaled the difference between the existing CAR and the 4% CAR that was targeted.

The Ministry of Finance, as the representative of the government, sold the bonds to Bank Indonesia (the central bank) to generate funds in the primary market. The government then put the funds into the recapitalized banks as equity. By doing this, the government was

now the owner of these banks. Next, recipient banks had to buy the bonds from Bank Indonesia; the buyer in the primary market. There is practically no fresh money involved in this process.

The blanket guarantee policy was part of an effort to prevent a stampede of depositors after the liquidation of 16 banks in November 1997. However, this policy failed to prevent market panic as the domino effect of the Asian Crisis led to a bank run. The cost of the blanket guarantee automatically rose sharply. The central bank claimed back the costs from the government and this became a promissory note issued to the bank by the government.

Table 7: Indonesia, Types of Government Bonds

	Type of Bonds	Purpose	Interest Rate	Amount at Issue Date (Millions of Ruppiahs)
1	Indexed Bonds	Bank Deposits Guarantee	3% indexed to CPI	218,315,594
2	Variable Rate Bonds	Credit Program	3-month SBI (central banks notes)	9,970,000
3	Fixed Rate Bonds	Bank Recapitalization	12%, 14%, 12.125%, and 12.25%	156,370,568
4	Variable Rate Bonds	Bank Recapitalization	3-month SBI (central banks notes)	219,479,211
5	Hedge Bonds	Bank Recapitalization	3-month SIBOR+2%	30,079,500

Source: Bambang Subianto, 2000.

The first two kinds of bonds were issued under the banking guarantee program. The three remaining bonds were issued under the bank recapitalization program. The other type of Indonesian government bonds is the Yankee Bonds RI 006. Issued on 25 July 25 1996, with a nominal value of US\$400 million and 7% coupons, these bonds were listed and traded in the United States.

In December 2000, as part of the bond exchange offer program, the government issued a new type of government bond—stapled bonds. These bonds have a shorter maturity and more attractive interest rates (one year, 16.5% per annum; and six months, 10% per annum). The aim of this issuance was to prompt investors to trade government bonds and indirectly to extend credits for banking (Loan Deposit Ratio).

Table 8: Indonesia, Bonds Exchange Offer

Recapitalized Bonds		Stapled Bonds		
Series	Coupon	Series	Composition	Coupon
FR 0001	12%	FR 0006	(4/13) x FR 0001	16.5%
		FR 0007	(9/13) x FR 0001	10.0%
FR 0003	12%	FR 0008	(4/13) x FR 0003	16.5%
		FR 0009	(9/13) x FR 0003	10.0%

Source: Bank Indonesia.

Stapled bonds are not a new source of financing for bank recapitalization. Fixed rate bonds (FR 0001 and FR 0003) could be exchanged for stapled bonds based on the composition scheme outlined in Table 8. Up to January 2001, recapitalized banks had already exchanged Rp58,334 billion of fixed rate bonds for stapled bonds.

Maturity Structure, Regularity of Issuance

Indexed bonds, as a liability of the government to the central bank, have a three-year maturity (Table 9). Variable rate bonds have a maturity of between three and 10 years. There are two maturity terms for fixed rate bonds—five and 10 years. Meanwhile, hedge bonds have a shorter maturity date that varies between one and three years. Stapled bonds have even smaller maturities of one year and six months.

Table 9: Indonesia, Maturity of Government Bonds

Maturity	Value (Billions of Rupiah)	Percent of Total Value
1-5	133,558,9	21.0
5-10	282,340,3	44.5
Above 10	218,315,5	34.4
Total	634,214,8	100.0

Source: Bambang Subiant.

With regard to the regularity of issuance, government bonds have no typical pattern of issuance timing, which depends on recapitalization needs of banks.

Major Investors

The secondary market for government bonds could be defined as the trading of government bonds that have been locked up in recapitalized banks' account. Out of Rp425,537 billion, Rp31,635 billion have already been listed for trading in the Surabaya Stock Exchange (see Table 10). Based on information from Bank Indonesia, the lock-up for trading worked gradually. Since February 2000, recapitalized banks have been allowed to trade 10% out of the total government bonds held for trading. On 19 September 2000; 8 December 2000; and 9 February 2001, the percentage rose to 15%, 25%, and 35%, respectively.

From February to March 20, 2001, the total trading volume recorded by Bank Indonesia was Rp45,992.7 billion. It should be noted that the value recorded by the central bank, as the clearing and settlement institution, was higher than that of the Surabaya Stock Exchange, since there is no obligation for investors to report transactions to the exchange. Most trading was conducted by private national banks. Investor composition is shown in Table 10.

Table 10: Indonesia, Government Bond Investors (Billions of Ruppiah): 2001

	Total Investment Value	%
Private National Banks	28,612	62.2
Foreign Banks	5,723	12.4
Securities Companies	2,518	5.4
Mutual Funds	100	0.2
Insurance	489	1.0
Pension Funds	66	0.1
Private Companies	155	0.3
Sub Registry (other)	8,327	18.1
Total	45,992	100.0

Source: Bank Indonesia.

Secondary Market Liquidity

The numbers of transactions of government bonds for recapitalization and banking guarantees on the Surabaya Stock Exchange have been low. Between February 2000 and December 2000, only 37 such transactions took place. The volume of those transactions amounted to Rp13,216.8 billion. The turnover ratio—measured by dividing the volume of transactions by the total amount of bonds listed—was 41.8%. However, the turnover ratio measurement based on the Surabaya Stock Exchange data might not reflect the real figure, since not all transactions in the market were recorded as there was no obligation for transactions to be reported to the exchange.

Table 11: Indonesia, Government Bond Transactions: 2000

No.	Years	Amount of Bonds Listed and Traded	Volume (Billions of Ruppiah)	Frequency	No. of Exchange Days	Average of Transactions	
						(Billions)	(Times)
2	February	2,167,833,000,000	18	6	20	1	0.3
3	March	2,167,833,000,000	0	0	21	0	0.0
4	April	2,167,833,000,000	0	0	17	0	0.0
5	May	2,167,833,000,000	147	6	22	7	0.3
6	June	2,167,833,000,000	35	3	20	2	0.2
7	July	17,821,054,000,000	91	4	21	4	0.2
8	August	20,770,596,000,000	4,485	28	22	204	1.3
9	September *	26,791,346,000,000	453	11	21	22	0.5
10	October	29,291,346,000,000	843	11	21	40	0.5
11	November	29,291,346,000,000	5,163	74	22	235	3.4
12	December	31,634,876,000,000	1,982	42	16	124	2.6
	Total		13,217	185	223	59	
	Average		1,101	15			0.8

Note: Data reported in Over-The-Counter Fixed Income Securities, Surabaya Stock Exchange.
Source: Surabaya Stock Exchange.

The Ministry of Finance has realized that despite the increasing value of transactions, secondary market liquidity has been low. This is due to the lack of infrastructure and market confidence in the bond market. The infrastructural deficiencies are related to the registration and settlement system that is not user-friendly to the public and the absence of a market maker, a repo transaction market, a yield curve.

Those factors are on the demand side. On the supply side, government bondholders have been discouraged by the fact that the yield is often below the expected market yield. As a consequence, the discounted price will drag the CAR down, as most of the recapitalized banks are only slightly above the 4% minimum requirement.

Pricing, Yield Curve

As outlined above, the process of government bond issuance has not followed the usual market approach. This has also been the case in the determination of price and yield in the primary market. This is a closed process that does not involve the public, which means that the timing, price, yield, and other attributes may not take into account market behavior.

In the secondary market of the Surabaya Stock Exchange, prices of government bonds have fluctuated from about 65% of nominal value to 102%. However, mostly these were sold below par value at about 95% to 98%.

Domestic/International Market, Currency

Except for the Yankee RI 006 bonds, government bonds are traded solely in the domestic market. With a limited absorption due to lack of liquidity, the absence of a market maker, and lack of infrastructure, trading activity is low. This situation is worsened by the lack of confidence of investors in the Indonesian market. Although there are large amounts of funds in the banking sector, the switch of investment to government bonds is hampered by the factors outlined above.

With the exception of the Yankee RI 006, the currency denomination for bonds is rupiah. The advantage of using the home currency is that it avoids exchange rate fluctuations. However, the volatility of the rupiah is not conducive to trading.

5. Major Characteristics of the Corporate Bond Market

Type of Bonds

Corporate bonds in Indonesia are mostly straight bonds. There have been only two guaranteed bonds, Panca Wiratama Sakti Bonds (for Rp85 billion, with a maturity date of 15 November 1997) and Sinar Mas Multifinance Bonds (for Rp500 billion, with a maturity date of 11 April 2002). The first were bank guaranteed and the latter are corporate guaranteed. In term of value, in 1996, the guaranteed bonds were 4.5% while in 2000 the figure fell to 3.1%. On the other hand, the percentage of convertible bonds to total bonds was only 3.1% in 1996 and 2.3% in 2000.

Regulations require bond issuers to have ratings at the time the bonds are issued, but they are not yet obliged to provide the bond ratings up to maturity. Based on the regulations, the issuer does not need any guarantor for bond issuance, but the securities and the issuer have to be rated if the bond is to be offered to the market and the market mechanism is to respond to the offered bond. In cases where the issuer seeks a higher rating, they undertake a credit enhancement by securitizing their bonds or asking their parent-

affiliate company or other parties to provide a corporate guarantee (assuming that the guarantor has a higher rating). The market mechanism will consider the rating together with other factors, such as interest rate, inflation, market sentiment, etc.

Major Issuers

As of September 2000, the largest industry to issue bonds has been the property sector, both in terms of the number of issuers and nominal value. The data for 1999 shows that property accounts for 26.5% of issuances, followed by banking (21%), infrastructure (17.9%), and the financial sector (11.1%). The figures for wood-based and agro-industries, consumer goods, and infrastructure have been on the increase whereas property has shown a decline.

Table 12: Indonesia, Issuers of Corporate Bonds by Industry: 1996-2000

Industry	No. of Issuers					Value (Billions of Rupiah)					Percent				
	1996	1997	1998	1999	2000	1996	1997	1998	1999	2000	1996	1997	1998	1999	2000
Property	8	13	11	11	11	1,135	3,585	3,585	3,295	3,310	26.5	28.6	30.0	26.5	18.4
Wood-based and Agro-Industries	2	4	3	4	6	400	1,150	800	1,800	3,300	9.3	9.2	6.7	14.5	18.3
Banking	6	8	8	8	8	1,169	2,419	2,419	2,669	3,050	27.3	19.3	20.2	21.4	17.0
Consumer Goods		1	1	2	4		300	300	400	2,400	-	2.4	2.5	3.2	13.3
Infrastructure		1	1	3	4		275	275	2,225	2,173	-	2.2	2.3	17.9	12.1
Financial	2	7	5	5	7	200	1,550	1,314	1,386	2,036	4.7	12.4	11.0	11.1	11.3
Other	4	7	7	6	9	1,380	3,260	3,260	674	1,721	32.2	26.0	27.3	5.4	9.6
Total	22	41	36	39	49	4,284	12,539	11,954	12,450	17,990	100.0	100.0	100.0	100.0	100.0

Note: Data refers to outstanding corporate bonds issued, stock.

Source: Pefindo.

Table 13: Indonesia, Bonds Issuance in 1998-2000

No.	Company	Industry Sector	Value (Billions of Rupiah)	Maturity (Years)
1998				
1	Perum Pegadaian V Series A1	Financial Company	52	5
2	Perum Pegadaian V Series B2	Financial Company	12	5
1999				
1	Astra International III Series I	Automotive	94	2
2	Astra International III Series II	Automotive	333	6
3	Astra International III Series III	Automotive	72	7
4	Bank NISP II	Banking	250	5
5	Ultrajaya Milk Industry & Trading Co.	Consumer Goods	100	5
6	Perum Pegadaian VI	Financial Company	135	8
7	Perum Pegadaian MTN IV	Financial Company	50	3
8	Pelindo II - MTN	Infrastructure	148	1
9	Indah Kiat Pulp & Paper Corp. Tbk I Series A1 & B1	Wood-Based & Agro Industries	515	5
10	Indah Kiat Pulp & Paper Corp. Tbk I Series A2 & B2	Wood-Based & Agro Industries	331	7
11	Indah Kiat Pulp & Paper Corp. Tbk I Series C1 & C1	Wood-Based & Agro Industries	155	5
2000				
1	Selamat Sempurna Tbk I	Automotive, Related Industries	100	5
2	Bank Jabar III	Banking	150	5
3	Bank Panin Tbk. I	Banking	500	7
4	Budi Acid Jaya Tbk. I	Chemicals	242	5
5	Lautan Luas Tbk. I	Chemicals	200	5
6	HM Sampoerna Tbk I	Consumer Goods	1,000	5
7	HM Sampoerna Tbk II	Consumer Goods	600	7
8	Indofood Sukses Makmur Tbk. I	Consumer Goods	1,000	5
9	Perum Pegadaian VII	Financial Company	150	8
10	Perum Pegadaian MTN V	Financial Company	50	3
11	Astra Sedaya Finance I	Financial Company	300	3
12	Swadharma Indotama Finance I	Financial Company	150	6
13	Jasa Marga (Persero)	Infrastructure	150	8
14	Dankos Laboratories Tbk.	Pharmaceutical	200	5
15	Berlian Laju Tanker Tbk. I	Shipping & Marine Transport Services	200	5
16	Lontar Papyrus Pulp & Paper I	Wood-Based & Agro Industries	1,000	5

Source: Pefindo database.

The changing pattern reflects the impact of crisis. During the crisis, wood-based and agro-industries and consumer goods suffered relatively less than others. The data for consumer goods show that sales performance held relatively steady. A combination of the need for business expansion and good market perception enhanced the new issuance of bonds in these industries.

The large surge in 1999 was a result of the issuance of bonds by Astra International, as part of its corporate debt re-structuring in exchange for the company's mature bonds. Therefore, the figures may not accurately reflect the recovery of the industry. Additionally, an oversupply of housing and mismanagement of property financing generated negative

sentiment towards the industry. There has, thus, been no bond issuance from the property industry since the crisis.

Major Investors

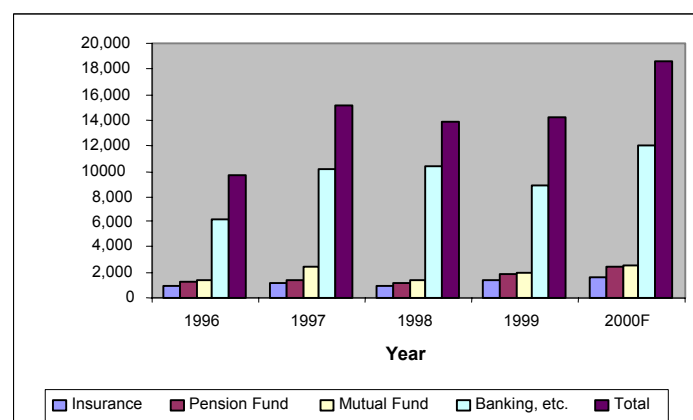
Most bonds investors are financial institutions (Table 14, Chart 3). Banks have been the most influential investors in bonds in rupiah terms over the last five years. The share of the banking sector has consistently exceeded 63%, reaching a peak of 75% in 1998. On the other hand, the shares of mutual and pension funds have varied between 10% and 15%. Insurance has registered the smallest figures at below 10%. In the United States, the trend was markedly different, with the share of insurance the largest (35-38%) and the portion of banking at only 8-12%, and declining over the period 1985-1996 (Schinasi and Smith, 1998).

Table 14: Indonesia, Major Investors in Corporate Bonds by Industry: 1996-2000

	1996	%	1997	%	1998	%	1999	%	2000F	%
Insurance	976	10.1	1,164	7.7	961	6.9	1,365	9.6	1,641	8.8
Pension Fund	1,236	12.7	1,402	9.2	1,126	8.1	1,878	13.2	2,447	13.1
Mutual Fund	1,359	14.0	2,480	16.3	1,379	10.0	2,004	14.1	2,554	13.7
Banking, etc.	6,125	63.2	10,136	66.8	10,369	74.9	8,934	63.0	12,014	64.4
Total	9,697	100.0	15,182	100.0	13,835	100.0	14,180	100.0	18,656	100.0

Source: Danareksa Securities.

Chart 3: Indonesia, Major Investors in Corporate Bonds (Billions of Ruppiah): 1996-2000



Source: Danareksa Securities.

Typically, bond investors in Indonesia are conservative asset managers, as they tend to hold bonds until maturity. There are several factors responsible for this behavior, including high political risk, inadequately skilled human resources; high market risk that leads to risk-averse behavior; and inadequate product knowledge concerning bond instruments (LPEM, 1999).

Major Underwriters

Danareksa Securities is the most active lead manager since the company has underwritten Rp6,600 billion in bonds. The top six underwriters that comprise 67.4% of bonds outstanding are shown in Table 15.

Table 15: Indonesia, Lead Managing Underwriters on Bonds Outstanding: December 2000

Underwriter	Amount (Billions Of Rupiah)	Share of Total
Danareksa Sekuritas	6,600	28.2%
Trimegah Securities	2,510	10.7%
Sinarmas Sekuritas	2,350	10.1%
ABN AMRO Asia Securities	1,600	6.8%
Amantara Securities	1,350	5.8%
Bahana Securities	1,350	5.8%
Total	15,760	67.4%

Source: Pefindo.

Maturity Structure

Bond maturities are mostly of four or five years. The figures as of December 2000 show that 69.2%, 69.7%, and 74.8% of issuance fell within that range in 2000, 1999, and 1998, respectively. This also implies that, by definition, bonds in Indonesia are mostly medium-term. But there has been a decline in medium-term bonds while shorter-term ones have been on the rise, as investors prefer a more liquid instrument during periods of uncertainty or a crisis of confidence (Table 16).

Table 16: Indonesia, Corporate Bond Maturity Structure: December 2000

Term	2000			1999			1998		
	No. of Issuers	Value (Billions of Rupiah)	Percent	No. of Issuers	Value (Billions of Rupiah)	Percent	No. of Issuers	Value (Billions of Rupiah)	Percent
0-3 Years	5	642	3.6%	3	292	2.4%	-	0	0.0%
4-5 Years	45	12,453	69.2%	36	8,361	69.7%	32	7,341	74.8%
6 Years and Above	19	4,896	27.2%	14	3,346	27.9%	10	2,475	25.2%
Total	69	17,990	100.0%	53	11,998	100.0%	42	9,816	100.0%

Source: Pefindo.

Liquidity

Liquidity in the Indonesian bond market is considered to be low. Table 17 shows the turnover ratio of corporate bonds in Indonesia. The fluctuation shown, including the daily average transactions, confirms that the bond market has been adversely affected by the crisis.

Table 17: Indonesia, Corporate Bonds Turnover Ratio (Percent): 1996-2000

Year	Turnover Ratio
1997	48.1
1998	35.1
1999	34.1
2000 (Sep.)	36.6

Note: Turnover ratio is defined as total transaction value divided by the total amount bonds listed.
Source: Bapepam, processed.

Table 18: Indonesia, Corporate Bond Transactions: 1997-2000

No.	Years	Amount of Bonds Listed and Traded (Rupiah)	Volume (Rp Billions)	Frequency	No. of Exchange Days	Average of Transactions	
						(Rp Billions)	(Times)
	1997	15,181,744,000,000	7,302.0	1,910	246	29.683	7.764
	1998	13,835,172,000,000	4,860.8	1,476	247	19.679	5.976
	1999	14,180,269,500,000	4,844.0	1,522	247	19.611	6.162
	2000						
1	January	14,180,269,500,000	250.0	72	18	13.889	4.000
2	February	15,180,089,500,000	468.0	143	20	23.400	7.150
3	March	16,030,089,500,000	1,160.2	296	21	55.249	14.095
4	April	15,967,859,500,000	1,106.2	280	17	65.071	16.471
5	May	16,882,859,500,000	1,227.5	300	22	55.795	13.636
6	June	16,869,559,500,000	973.5	146	20	48.674	7.300
7	July	18,655,779,500,000	362.8	137	21	17.275	6.524
8	August	18,873,779,500,000	642.0	193	22	29.184	8.773
9	September **	18,923,779,500,000	737.2	249	21	35.104	11.857
10	October						
11	November						
12	December						
	Total of Transactions		6,927.4	1,816	182	38.06	9.98
	Monthly Average of Transactions		769.7	202			

Note: Reported in OTC Fixed Income Securities, Surabaya Stock Exchange
Source: Surabaya Stock Exchange.

Fixed or Floating

Prior to 1996, most bonds were floating rate or hybrid. The index for the floating rate is usually a non-market determined number such as the time deposit rate, and not hedgeable. However, these days, either a floating rate or fixed rate is used for interest payments (Table 19).

The interest rate structure shows that more than 65% of corporate bonds had a fixed rate of between 6.5% and 19.25% in July 2000. The high degree of uncertainty faced by market players in the domestic market regarding economic and political instability makes the fixed rate more favorable to investors. In addition, the characteristics of investors, who use bonds to gain a fixed income as a precaution rather than for speculative reasons, support this.

Table 19: Indonesia, Type of Interest Structure for Corporate Bonds: July 2000

Interest Rate	Value (Rp Bil.)	Percentage
Fixed 6.5% - 19.25%	12,156	65.2%
Fixed IRSOR + (1)%	577	3.2%
Floating: ATD6 + (1 - 3.25)%	4,420	23.7%
IRSOR6 + (1 - 2.25)%	244	1.3%
Revenue Sharing Rate	275	1.5%
JIBOR + (3)%	52	0.3%
JIBOR3 + (3)%	12	0.1%
JIBOR6 + (1.75 - 2.5)%	492	2.6%
Ref + 1%	427	2.3%
Total	18,656	100.0%

Source: Pefindo.

International or Domestic

Indonesian corporate bonds are mostly issued in the domestic market, because of the very high country risk. An indication of how risky Indonesian bonds are regarded abroad is that no Indonesian bonds have attained an investment grade rating. Out of 33 issuers of outstanding international bonds, 15 were issued after the crisis. Those amounted to US\$1.239 billion out of US\$2.759 billion; and all were of Y2 million and W104 million. The maturity structure and coupon rate are shown in Table 20.

In Indonesia, foreigners are allowed to invest in bonds, but they are not allowed to be an issuer in the domestic bond market.

Exchange Market/OTC issues

Both the exchange and OTC markets exist in Indonesia. The Surabaya Stock Exchange manages the listing and trading activities of bonds. In early June 1997, the exchange launched an information facility for debt securities trading. This facility, Over-the-Counter-Fixed Income Securities (OTC-FIS), essentially worked as a confirmation means for buyers and sellers of bonds before executing a transaction. It is an electronic quotation tool for bond market participants to reflect market-making interest in fixed income securities. It provides bid and offer quotations of bonds, transactions, and trade reporting on a real-time basis. The system enables participants to enter, withdraw, and amend bid or sell quotations at any time before execution of a transaction.

However, bond trading is mainly conducted through the traditional OTC system, in which buyers and sellers communicate and trade with each other without involving the Surabaya Stock Exchange. As a consequence, trading in the secondary market is not well monitored. Some factors contributing to this state of affairs include the following:

- generally, the outstanding bonds are the bearer bonds;
- it is not only exchange members who are allowed to execute transactions, but also banks, who have no obligation to report their transactions to the exchange; and
- an unstructured trading system hampers the creation of a price benchmark for sellers and buyers in the secondary market. The market price also fluctuates too much.

Table 20: Indonesia, Corporate Bonds Issued in the Foreign Market: March 2001

Issuer	Amount Outstanding (Millions of USD)	Issue Date	Maturity (Years)	Coupon
Polysindo Int'l	2	6/20/94	5	13.0
FSW Int'l FI I-BV	3	10/29/96	10	12.5
BTN	20	3/14/97	7	Float
PT Cakrawala Andaras	22	2/11/97	5	10.5
Matahari Putra	24	6/22/91	10	2.75
Putra Surya Multi	26	5/8/96	5	1.50
BTN	30	12/15/95	7	Float
PT Bank Mandiri	50	9/20/99	2	Float
Inti Indorayon	60	5/2/91	15	7.0
Inti Indorayon	110	10/14/93	16	9.125
Sampoerna Int'l	117	6/18/96	10	8.375
Polysindo Int'l	122	12/15/95	5.5	13.0
PT Astra Int'l	125	4/29/94	5	9.75
PT Astra Int'l	125	4/2/91	5	6.75
Bapindo	125	5/17/95	7	Float
FSW Intl FI I-BV	131	10/29/96	10	12.5
BNI 46	145	1/29/97	10	7.625
Bapindo	150	10/22/96	7	Float
Pelindo	200	4/15/97	5	8.06
Bahana Perdana	250	11/12/99	10	-
Pratama Djarum	260	7/16/97	8	12.75
Sierad Pro	2	8/15/97	12	-
PT Indomivon ²	10	12/20/00	2	10.8
Hanil Jaya ²	14	7/16/99	3	7.0
PT Indomivon ²	15	2/28/01	1	11.12
PT Niwon Indah ²	20	3/16/01	1	-
Cheil Samudra ²	45	6/11/99	3	7.0

Note 1: Millions of Yen

Note 2: Millions of Won

Source: Bloomberg.

Surabaya Stock Exchange has developed a market information system and trading mechanism for bonds. Basically, there were two steps taken: first, the improvement and widening of market information that could be assessed by exchange member and market players; the second was an improvement of the trading mechanism by introducing scripless trading.

6. Regulatory Impediments

Tax System

Income from interest of bonds is subject to 15% income tax for domestic investors and 20% for foreign investors, except for banks, pension funds, and mutual funds. These figures are similar to the rate for interest income from bank deposits. However, after the crisis, in December 2000, the government imposed an additional tax of 0.03% of transaction value on bonds traded on the securities exchange. Such additional taxes discourage bonds.

Prudential Regulation

Aside from the rating requirement for issuing bonds, there is no specific prudential regulation imposed on bond players in Indonesia, such as a liquidity requirement. Yet, there is a restriction in the case of investments by pension funds, which was applied before the crisis.

7. Role of the Banking Sector

Banks are the major bond investors and issuers, as was shown in the tables above. Banks can act as guarantors, but not as underwriters, dealers, or brokers. The latter functions can be conducted, however, by a subsidiary of the bank.

Banks work as major issuers for two reasons: to reduce maturity mismatches and promote business expansion. Although relatively more expensive, banks often intentionally issue bonds to improve the maturity mismatch in their assets liabilities management. On the other hand, as the major buyers, banks are motivated by the yield of bonds. There has been a lack of qualified firms that can extend credit, especially since the crisis. Bonds, therefore, are considered safer than giving loans to firms.

Banking Sector Regulation

Before the crisis, the banking sector in Indonesia was deficient for three reasons. First, it put too much emphasis on corporate business rather than on the retail side. Accordingly, when corporates collapsed because of foreign exchange problems, banks faced the problem of non-performing loans. Tied in with this is the role of family businesses, which are predominant in Indonesia. Among the 30 companies that have assets above Rp5 trillion, 26 are family businesses. Also, eight out of the 15 largest banks that had 75% of public funds deposited were formerly owned by family businesses. Given such figures, problems in corporates readily led to a banking crisis.

Second, prudential regulations were not properly implemented. There were, for example, violations of the legal lending limit regulation, excessive risk taking, and a lack of hedging.

Third, there were maturity mismatches and little disclosure of bank performance to the public.

To deal with the banking crisis, the government implemented three policies. First, through a deposit guarantee policy, it guarantees the interest rate of deposits in banks. This is the most significant banking regulation discouraging bond market development. After the crisis, to maintain a level of confidence in banks as intermediaries, the government set the bank deposit guaranteed interest rate on a weekly basis, thus reducing the risk surrounding bank deposits as alternatives for investment, since they would be as safe as risk-free government bonds. Setting an interest rate also influences the cost of bond issuance. If the

government sets a high interest rate, the cost will be higher as well. The policy was designed to be temporary, yet there is no sign of it being dropped in the near future.

Second, the policy of bailing out banks was intended to re-capitalize them with negative equity through the issuance of government bonds. The impact on the bond market was that new issuances of government bonds had very large value. This may create a liquidity problem, aside from the problem of repayment. A third policy was to form the Indonesian Bank Restructuring Agency (IBRA) to improve the performance of banks taken over by the government.

Banking Structure

After the crisis, as shown in Table 21, the share of foreign banks as well as State banks to total assets has tended to be higher. Yet the share of private national banks decreased from 51.7% in 1996 to only 35% in September 2000. Adding the figures for foreign banks and joint banks, the combined share was 9.2% and 12.8% in 1996 and September 2000, respectively.

Table 21: Indonesia, Bank Assets (Billions of Ruppiah): 1995-2000

Type of Bank	1995	%	1996	%	1997	%	1998	%	1999	%	Sep-00	%
State Banks	122,624	39.6	141,314	36.4	20,194	37.5	304,815	39.6	391,547	48.7	458,675	49.2
Regional Development Banks	9,765	3.1	10,727	2.8	12,270	2.3	14,546	1.9	18,786	2.3	23,225	2.5
Private National Banks	147,473	47.6	200,867	51.7	248,731	46.2	351,913	45.7	291,604	36.3	331,948	35.6
Foreign Banks	12,314	4.0	15,849	4.1	37,775	7.0	51,117	6.6	66,455	8.3	73,830	7.9
Joint Banks	17,867	5.8	19,833	5.1	37,449	7.0	47,620	6.2	35,930	4.5	45,253	4.9
Total	310,043	100.0	388,590	100.0	538,166	100.0	770,011	100.0	804,322	100.0	932,931	100.0

Source: Bank Indonesia.

The profile for the top 15 banks can be seen in the 2000 figures given in Table 22. At the end of December 2000, those 15 banks—out of more than 160 banks—accounted for 75% of the total public funds deposited. Also, 11 of those 15 top banks have been recapitalized. In term of deposits, 48.3% are in State banks, 43.8% in private national banks, 2.8% in regional development banks, and the rest in foreign banks. Meanwhile, in terms of loan value, 43.2% is held by State banks, 28.1% by private national banks, 25.4% by foreign banks, and the rest by regional development banks.

8. Supply and Demand

Supply of Bonds

There are at least four major factors that influence the limited supply of corporate bonds in Indonesia. First, there is a limited number of large and reputable firms, as can be seen from the figures of companies listed on the Jakarta Stock Exchange. From 291 companies listed, only 30 have assets in excess of Rp5 trillion, while most (129) have assets below Rp500 billion.

The second factor is the low quality of bonds. This can be seen from the ratings issued by Pefindo (the Indonesian Credit Rating Agency) in 1996, 1997, and 2000. Most of

the bonds are below investment grade. After the crisis, the performance of bonds declined, as can be seen from the soaring number of bonds below BB rate in those years.

Table 22: Indonesia, Profiles of the Top 15 Banks: December 2000

	Assets (Rp Tril.)	Gov't Bonds	LDR (%)	NPL (%)	Marketable Securities (Rp Tril.)	CAR (%)
A. Re-capitalized Private Banks						
BCA	97	60	6.8	5.5	20	45.9
Danamon	61	48	19.7	19.1	2	41.3
BII	36	9	60.8	24.1	8	6.8
Lippo	22	6	23.5	36.1	6	19.7
Bali	5	5	15.3	49.5	2	25.5
Niaga	17	9	40.3	61.2	2	18.0
Universal	11	4	53.6	21.0	0.2	4.8
Bukopin	8	0.4	82.1	2.4	2	16.2
B. Non-Re-capitalized Banks						
Panin	15	0	45.7	41.7	10	54.4
NISP	5	0	74.1	5.9	2	10.9
Buana	10	0	16.6	4.5	8	38.1
Mega	6	0	42.2	0.9	3	21.2
C. State-Owned Banks (All Re-cap)						
Mandiri	232	181	27.1	50.7	8	25.8
BNI	113	62	37.4	39.3	14	13.1
BRI	54	50	51.7	15.2	4	4.0
Total	692	434	30.9	32.4	90	

Source: Pefindo.

Table 23: Indonesia, Bond Ratings, 1996-2000

Bond Ratings	1996	1997	2000
>AA	0	7%	1.9%
A	2.3%	25%	33.3%
BBB	76.6%	48%	18.5%
<BB	3.1%	20%	46.3%

Source: Pefindo.

The third factor is the problem of economies of scale. The financing needs of small and medium firms are small and cannot be carried out through bonds due to problems with economies of scale. Given the existing interest rate structure, the cost of a small issuance is too high either for the issuers or supporting institutions such as underwriters.

The last factor is the relatively high administration costs, which, in Indonesia, can account for about 4% of issuance value.

On the other hand, government regulations have had no influence on the limited supply of bonds or infrastructure. Instead, there is a problem promoting bonds as an instrument to the public, which is more attuned to stocks or bank financing. But this is not a major infrastructural impediment.

Demand

The lack of market liquidity discourages the demand for corporate bonds, especially for individual investors. For institutional investors, the problem is low asset accumulation, so they rely heavily on bank deposits. It may be that they have difficulties putting their assets into bonds as a consequence of their comparatively smaller exposure to bonds.

For example, in the insurance industry between 1993-1999, the percentage of investment put into bank deposits was in excess of 50% and has been increasing, reaching a peak of 71.7% in 1998. On the other hand, bond investment has remained low, reaching a high of 15% in 1994. But the figures decreased to about 3.9% in 1999 after hitting a low of 3.4% in 1998 (Table 24).

The other problem is the security aspect of bonds. After the crisis, many bond issuers collapsed and were put into government restructuring schemes. Consequently, the investments became less secure and uncertainty surrounding repayment and price was high. On the other hand, with bank investments, deposits are guaranteed, a factor that discourages investors preferring bonds.

Table 24: Indonesia, Investment and Assets of the Insurance Industry (Billions of Rupiah, Percent): 1993-1999

	Promissory Note	Bonds	Stocks	Property	Time Deposits & CD	Policy Loan	Mortgage Loans	Certificates of Bank Indonesia	Mutual Funds	Private Placements	Others	Total Investments	Total Assets
1993 Value	15	532	458	149	4,466	183	52	2,169	NA	696	97	8,817	11,267
%	0.2	6.0	5.2	1.7	50.7	2.1	0.6	24.6	NA	7.9	1.1	100.0	
1994 Value	127	1,602	411	298	6,313	226	107	521	NA	728	365	10,697	14,415
%	1.2	15.0	3.8	2.8	59.0	2.1	1.0	4.9	NA	6.8	3.4	100.0	
1995 Value	203	776	774	287	7,141	260	200	2,701	NA	816	285	13,441	17,270
%	1.5	5.8	5.8	2.1	53.1	1.9	1.5	20.1	NA	6.1	2.1	100.0	
1996 Value	426	976	1,093	287	9,864	313	266	2,761	NA	1,793	261	18,039	22,264
%	2.4	5.4	6.1	1.6	54.7	1.7	1.5	15.3	NA	9.9	1.4	100.0	
1997 Value	323	1,164	866	471	14,627	663	352	1,664	NA	2,473	916	23,517	32,009
%	1.4	4.9	3.7	2.0	62.2	2.8	1.5	7.1	NA	10.5	3.9	100.0	
1998 Value	1,409	961	732	509	20,050	739	458	74	NA	2,538	483	27,952	38,934
%	5.0	3.4	2.6	1.8	71.7	2.6	1.6	0.3	NA	9.1	1.7	100.0	
1999 Value	75	1,124	2,301	769	17,917	613	479	1,546	281	3,768	327	29,198	38,161
%	0.3	3.9	7.9	2.6	61.4	2.1	1.6	5.3	1.0	12.9	1.1	100.0	

Source: Dewan Asuransi Indonesia.

The Market

The bond market is illiquid because of limited demand and supply of bonds, their comparative lack of attractiveness compared to other instruments both as a source of financing and portfolio investment, and the nature of buy and hold carried out by investors. This has been worsened by the imposition of a tax policy of 0.03% of transaction value reported.

9. Some Constraints to Developing a Bond Market in Indonesia

Most bond investors are institutional—pension funds are the major players and there are practically no individual investors involved. Meanwhile, insurance, banking, and investment funds hold only a limited proportion of bonds. The bonds that are in greatest demand are those in high rating categories (at least an A-), in contrast to the pre-crisis investment policy where BBB- was acceptable. However, bond issuers do not realize the importance of nor feel the need to have an annual rating. Rating requests are recognized as necessary only when debt instrument issues are planned.

High interest rates make the bond market less attractive to issuers and investors. For instance, institutional investors hold new bonds over the long term and prefer not to trade bonds in the secondary market. The banking industry, the most common large investor, is still not regarded as a big player in the bond market.

As for macroeconomic aspects, the unfavorable distributions of income and money in circulation in a low per capita income society have led to limited public investment in bonds.

Additionally, the cost of issuing bonds is not cheap— $\pm 4\%$ of the total issuance, excluding the interest rate. Therefore, the number of issuers and the amount of issuance are relatively still limited. Most investors prefer short-term investments rather than long-term ones. This is reflected in the number of bank depositors who hold deposits over a three-month period or less. This is all rather unfortunate for a developing country that needs as much long-term financing as it can get.

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