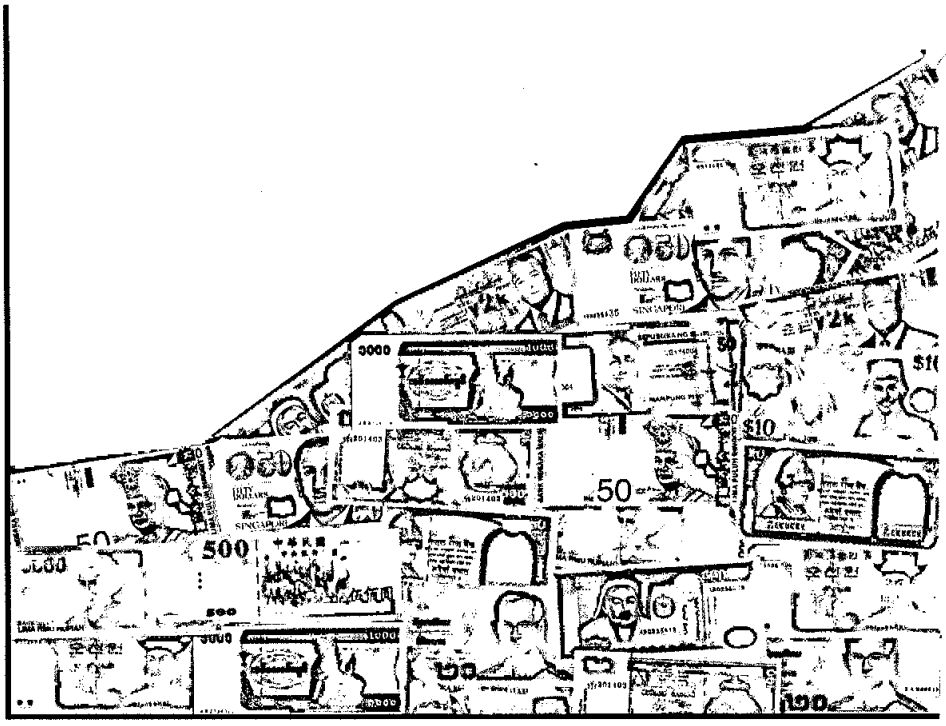
The Development of Domestic Bond Market and Its Implication to Central Bank: Countries' Experiences

Bambang Kusmiarso



The South East Asian Central Banks (SEACEN)
Research and Training Centre
Kuala Lumpur, Malaysia

THE DEVELOPMENT OF DOMESTIC BOND MARKET AND ITS IMPLICATION TO CENTRAL BANK: COUNTRIES' EXPERIENCES

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FOREWORD

Since the Asian crisis, many emerging and developing countries have made efforts to promote the growth of their domestic bond markets. The crisis had exposed the danger of excessive reliance on funding from commercial banks and foreign short term financing, and underscored the importance of broadening capital market, in particular to find an alternative avenue of financing such as domestic bonds. Consequently, development of bond markets has been placed at the top of policy agenda in many countries, including SEACEN member countries. The momentum for this development has been further boosted by the recent initiatives to develop the regional bond market as an alternative outlet for investment in the region.

Domestic bond markets have been widely recognised to be beneficial in any economy. A mature and well-functioning bond market will help channel saving efficiently into investment for both government and private sectors, leading to the stability of the financial market and strengthening the transmission and the implementation of monetary policy. Recognising the importance of having a matured and well-functioning bond market, it is therefore be important to learn from other countries' experiences so that critical success as well as failure factors could be identified. The study also intends to analyse the links between the development of bond markets and central banks, and review the central banks role in supporting bond market development.

The paper is divided into two parts: the first part consists of the integrative report of country experiences and regional analysis authored by Mr. Bambang Kusmiarso, Project Leader and Senior Economist at the SEACEN Centre while the second part consists of country chapters authored by country researchers from participating member central banks, that give more details of the bond market in the individual countries. 13 country researchers from 10 member central banks are participating in this research, namely, Ms. Irene Yap Tsue Ing and Ms. Dk. Sri Joedianna Mohammed (Ministry of Finance, Brunei), Ms Sangita Prasad (Reserve Bank of Fiji) Ms. Elisabeth Sukawati and Mr. Dudi Dermawan (Bank Indonesia), Mr. Hee Kwon Chae (The Bank Of Korea), Ms. Beh Cheng Hoon (Bank Negara Malaysia), Mr. Naresh Shakya (Nepal Rastra Bank), Ms. Ana Marie T. Hardillo (Bangko Sentral ng Pilipinas), Mr. C.J.P Siriwedana (Central Bank of Sri Lanka), Mr. John Jen-hai Young (The Central Bank of China), and Mr. Trirat Thanaprakopkorn and Miss Kwandurn Plengsombut (Bank of Thailand).

The project report was completed with the kind assistance of several institutions and individuals. The SEACEN Centre wishes to gratefully acknowledge the valuable contribution of all member banks for making available their staff to join the project team and for their useful comments and suggestions for the report. Special thanks are due to Mr. Ismail Dalla, East Asia and Pacific Region, World Bank, for his assistance and valuable comments on the final draft paper. In addition, the author would like also to express his deep gratitude to the management and staff of the SEACEN Centre, in particular, Dr. Bambang S. Wahyudi, Director of Research; Ms Kanaengnid T. Quah, Head of Seminars and Publications; and Ms Seow Yun Yee, Economist, for their assistance throughout the project. The views and conclusions of this paper, are however, those of authors and do not necessarily reflect those of the member banks or the SEACEN Centre.

Dr. Subarjo Joyosumarto
Executive Director

April 2005

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EXECUTIVE SUMMARY

Having a deep and liquid domestic bond market is increasingly seen as an important ingredient to strengthening the financial sector. A strong bond market could reduce the over-reliance on banks and equity financing and help reduce vulnerability from volatile capital flows and promote financial market stability. Many recent studies have argued that the impact of the Asian crisis in 1997 could have been lessened if the region had a well functioning domestic bond market. The development of the bond market is particularly important for central banks as they can strengthen the transmission and implementation of monetary policy. The effort to develop the bond market is also believed to be important given the region's high domestic savings and large capital reserve. Traditionally, the main part of these huge resources had been invested outside the region due to a limited choice of alternative investment in the region.

This report reviews the current development of the bond market in selected SEACEN member countries, identifies some constraints/challenges in developing the bond market, reviews measures taken to further develop the bond market, and examines implications of bond market development on central banks.

It is found that, in the post Asian financial crisis era, the development of domestic bond markets in countries under study is growing rapidly. They more than doubled in size between 1997 and 2003. Indonesia and Thailand registered the fastest growth with Korea having the largest amount of bonds outstanding. This impressive growth reflected serious government measures to develop alternative channels of financial intermediation as well as the funding needs of bank restructuring and government deficits.

However, though the growth in the region is considered high, the stage of bond market development varied greatly across countries. Malaysia, Korea, Taiwan, and Thailand seem to have more advanced bond market followed by Indonesia, Philippines, Sri Lanka, and Fiji. Nepal and Brunei are at different stages and still developing. While the bond market in Korea makes up more than half of the total market in the region, in Nepal it is only 0.1% of the total in the region. In relativity to their size of economies, the bond market in Malaysia has reached 83% of GDP, far above the ratio in Nepal which only accounted for 28% of GDP. Corporate bonds have made a major contribution to the development of domestic bond market in Malaysia. The combined size of the bond markets in 10 countries under study was USD851 billion in 2003, representing growth of immense pace, when compared to only USD369 billion in 1997.

Although specific reasons in individual countries may vary, many countries under study have common problems in their efforts to develop their bond markets. These include the underdeveloped secondary market, shallow bond market, and limited supply of bond issues. In countries with more advanced bond markets, they face challenges in auction schedules, hedging instruments, derivatives market, tax treatment, and the implementation of short selling for bond. In less developed bond countries, they still face the basic problem of improving the bond market infrastructure, such as having a good data base for bond market management.

To facilitate the development of the bond market, many countries under study have undertaken a comprehensive set of measures. The measures include, among others, strengthening the legal and regulatory framework, extending benchmark and adopting auction systems, stimulating demand, improving market infrastructure, improving market liquidity, and promoting regional cooperation in developing bond markets. However, further measures are still needed. Again, since the stage of bond market development is varied, some measures taken to further develop the market are varied as well. Some countries have planned, among others, to improve the market infrastructure such as improving data base management and enhance efficiency of the settlement systems, stimulate a more diverse investor base, foster a more active secondary market, and developing a benchmark bond. In more developed countries, they have plans to broaden the variety of debt instruments.

From the central bank perspective, the bond market, in particular government securities market, plays an important role in the implementation of central bank policy. It provides fiscal authorities with a market-based non-inflationary source of deficit financing, enhancing the efficiency and effectiveness of monetary policy, strengthening financial stability, and could serve as a timely predictor of economic prospects. Many central banks have made various important contributions to the development of efficient bond markets including the maintaining of low and stable inflation rates, using bonds as monetary policy instruments, being an effective fiscal agent of the government, enhancing the transparency of markets, and promoting the development of derivatives markets.

Given the progress made to date and strong political will of countries under study to develop their bond markets, future prospects for further bond market development in the SEACEN countries are excellent.

PART I: INTEGRATIVE REPORT

Chapter 1
The Development of Domestic Bond Market and its Implication to Central Bank: Countries' Experiences

by
Bambang Kusmiarso[1]

1. Introduction

1.1 Background

The Asian financial crisis in 1997 has highlighted the problems of excessive reliance on foreign short-term financing and underscored the importance of broadening the financial sector, particularly to find an alternative avenue of financing such as developing the domestic bond market. Having a domestic bond market is also essential to relieve the economy from over-dependence on banks since recent studies shows that bank lending often amplify rather than moderate business cycle.

In response to this, many central banks in emerging and developing economies have made concerted efforts to create a deep, liquid and matured domestic bond market. An important lesson learnt from the crisis is that an efficient and mature bond market can play an important role during times when the other channels of financial intermediation, the banks and equity markets, falter or fail. Greenspan gave the example where bond markets served the United States well during the credit crunch of the late 1980s in a banking system crisis related to the real estate cycle[2]. Many recent researches have argued that the severity of the Asian financial crisis could have been restrained or at least lessened if there existed a robust and deep bond market in the region.

As a result of serious efforts in many emerging and developing countries to promote the growth of their domestic bond markets, the total outstanding domestic bonds in East Asian countries have tripled in size between 1997 and 2003 to become USD1.2 trillion at end-of 2003 with an annual growth rate of 22.5%[3].

1. The author is Senior Economist at the SEACEN Centre seconded from Bank Indonesia.

2. *See* Greenspan 2000.

3. *See* Asian Development Bank. Asian Bond Monitor 2004. The countries under their study cover the 10 Association of Southeast Asian Nations member countries (Brunei Darussalam, Cambodia, Indonesia, Lao People's Democratic Republic, Malaysia, Myanmar, Philippines, Singapore, Thailand, and Viet Nam) plus the People's Republic of China and the Republic of Korea).

This growth rate is far above the 11% in Japan, 7% in the United States, and 2% for Latin America over the same period. Most governments in Asian countries have begun to tap domestic bond markets since the crisis. Large amounts of funds were injected to recapitalise the banking systems, to make up for the lack of bank credit after the crisis, or to finance more expansionary fiscal policies.

The importance of developing the domestic bond markets is also being realised with at least four intergovernmental working groups among countries in the region currently examining this issue. These include the Asia Pacific Economic Cooperation Finance Ministers Meeting (APEC FMM), Association of South East Asian Nation + 3 (ASEAN +3), Asian Cooperation Dialogue (ACD), and Executives' Meeting of East Asia-Pacific Central Banks (EMEAP). APEC and ASEAN+3 are working on the development side of the bond market, including the removal of barriers impeding the issuance of bonds in the regional and domestic markets respectively. ACD is focusing on public awareness of the regional bond market. Meanwhile, the countries under the EMEAP arrangement have established the Asian Bond Fund.

While bond markets in the region have been growing at a fast pace, the development in the individual economies are at different stages. In several countries, the rapid advancement is due to financial innovations such as asset-backed securitisation that has deepened the domestic bond markets. In other countries, the authorities play an active role in bond market development. It would, therefore, be instructive to learn from these experiences so that the critical success as well as failure factors could be identified.

From the central bank's perspective, apart from financial stability considerations, bond market development has important implications for monetary policy. Well-developed bond markets enhance the efficiency and effectiveness of monetary policy in many ways. Domestic bonds, particularly government bonds, provide the central banks with the instruments and markets for the implementation of monetary policy. The term structure of interest rates derived from well functioning bond markets would be an important indicator of how well and rapid short-term policy interest rates would be transmitted to the long-term rates. However, to be effectively used for open market operations, its markets have to be both deep and wide.

1.2 Objectives

The objectives of this research are to review current development of bond market in the SEACEN region, identify problems encountered in developing well-functioning bond market and review past efforts/measures taken to further develop the market. The study also intends to examine the links between the development of bond market and central bank policies. A matured and well functioning bond market will help channel saving efficiently into investment for both the government and enterprises, promote the stability of the financial market and provide a tool in monetary policy and management.

Specifically, the study covers:

1. Recent Development of Bond Markets in the SEACEN countries;
2. The Role of Rating Agency;
3. Constraint/Problems/Challenges in Developing Domestic Bond Markets and Some Measures to Overcome Them;
4. The Role of Central Bank in Support of Bond Market Development;
5. The Links of Development of Bond Markets and Central Banks

1.3 Scope and Organisation of the Study

The study is a collaborative project of the SEACEN Centre and the member central banks/monetary authorities. Under this collaborative arrangement, the researcher/s of the member banks or monetary authorities provide the analysis of their respective country studies while the SEACEN Centre conducts an overall analysis based on the country studies as well as builds on previous work done in this area, notably those of the Bank for International Settlements (BIS), World Bank, and Asian Development Bank (ADB). 10 of 13 SEACEN member countries participated in this project namely, the Ministry of Finance, Brunei Darussalam; Reserve Bank of Fiji; Bank Indonesia; The Bank of Korea; Bank Negara Malaysia; Central Bank of Sri Lanka; Nepal Rastra Bank; Bangko Sentral the Philippines; The Central Bank of China; and the Bank of Thailand.

The Paper comprises two parts. Part One is the integrative report of the country studies. Part Two contains all the country chapters which are contributed by the researchers nominated by the member banks or monetary authorities. The first section of the first Part presents the background and objectives of the research project while the second section provides rationales for developing domestic bond market. The third section deals with the recent development of

the domestic bond market in the SEACEN countries. The fourth section reviews challenges and strategies for developing well-functioning domestic bond markets in the SEACEN member countries. The fifth section touches on the issue of links between the development of bond market and central bank policies and the sixth concludes the research.

2. The Rationales for Developing Domestic Bond Market

2.1 Why Develop the Domestic Bond Market

The domestic bond market has been widely recognised to play an important role in the economy. It is essential for fostering financial stability, improving financial intermediation, restraining the effects of volatility in the international economic and financial system, and reducing inflationary funding. (See Box 1.1. for benefits of creating a robust domestic bond market).

Box 1.1: Benefits of Creating a Robust Bond Market

Having a robust domestic bond market development is important for a number of reasons such as providing an alternative source of financing, reducing exchange rate mismatch, creating a more complete financial market, and providing central banks with the instruments and markets for implementation of monetary policy.

A robust domestic bond market can also help reduce risk of abrupt reversals of portfolio flows. The bond market will enable a fund manager to stay investment in the country without resorting to the exchange market. Many studies have argued that the lack of robust bond markets in Asia contributed significantly to the Asian financial crisis as many firms had relied too much on equity markets and banking systems. As bank lending shrank and stock markets plummeted in the wake of the crisis, investors that were unable to divest into domestic bond markets, took funds out which triggered capital flight.

Currency mismatch associated with external borrowing can also be reduced since the domestic bond markets provide a natural hedge for domestic borrowers whose revenues are tied to the local currency. Firms may finance their long-term investment using long-term debt, thereby reducing

a maturity mismatch. The domestic bond market provides an avenue for domestic funding of budget deficits other than that provided by the central bank and, thereby, can reduce the direct and potentially damaging monetary financing of budget deficits.

Having a robust domestic bond market may also be important in creating a more complete financial market, provide long-term financing, and strengthen the transmission and implementation of monetary policy. Domestic bonds make financial markets more complete by generating market interest rates that reflect the opportunity cost of funds at each maturity which is essential for efficient investment and financing decision[4]. With the existence of a bond market, firms could finance their need for long-term investment with long-term bonds and such a market could be very helpful in avoiding concentrated intermediation on banks uniquely and may make the economy more resilient to crises. Fostering bond markets can also help the operation of monetary policy. A well functioning bond market is essential for the smooth transmission of monetary policy. The yield curve for government bonds also provides valuable information about expectations of likely macroeconomic developments and market reactions to monetary policy moves.

In addition, having robust bond markets could also provide access to lower-cost long-term capital[5], strengthen corporate transparency and market discipline[6], provide key information on the country's economy to investors[7], and help deepen markets by attracting reputable foreign investors[8]. Through the issuance of bonds, governments and private sectors could lock in capital at lower interest rates with longer maturities. Raising capital in the bond market would subject firms to stringent disclosure rules and the discipline of bond prospectuses and credit rating procedures. Aside from providing greater information on individual companies, bond markets are an important source of information for investors on the state of the economy, just like the stock market index is used as an indicator of current business confidence. Several countries have notably taken explicit measures to develop the bond market, even without immediate fiscal needs, because of their role as financial centres and the public-good benefits[9].

4. *See* Philip Turner 2002.
5. *See* Parrenas 1990.
6. *See* Parrenas 1990.
7. *See* Parrenas 1990.
8. *See* Farrell 2004.
9. *See* Kiang 2003.

The potential for developing the domestic bond market is also considerable given the region's high domestic saving rates and large foreign exchange reserves[10] *(See Table 1.1)*. The saving rates in countries under study are high, ranging between 15% and 36%. The official international reserves are increasing substantially to around USD511 billion, reflecting successful accumulation of foreign exchange reserves. For example, Korean reserves grew substantially from USD20 billion in 1997 to USD155 billion in 2003, while Taiwan reserves now stand at USD211 billion, higher than USD88 billion in 1997.

Table 1.1
Foreign Reserves and Saving Ratios in Selected SEACEN Economies

	Foreign Reserves (billions of dollars)		Saving Ratios (percentage)	
	1997[1)]	2003[1)]	1997[1)]	2003[1)]
Brunei	na	na	na	na
Fiji	0.4	0.4	na	na
Indonesia	17.4	36.3	26.3	17.8
Korea	20.4	155.4	34.6	32.6
Malaysia	21.7	44.9	40.0	36.3
Nepal	0.6	1.2	14.6	14.6
Philippines	8.8	16.9	19.5	19.5[2)]
Sri Lanka	2.0	2.3	51.2	21.6
Taiwan	88.2	211.1	26.4	26.0
Thailand	27.0	42.1	33.6[2)]	28.7[2)]
Total	**186.4**	**510.6**		

1) SEACEN Financial Statistics
2) Dalla 2003

Sources: Dalla, 2003 and SEACEN Financial Statistics

10. *See* Dalla 2003 and Schinasi 2001.

However, the majority of these huge resources have traditionally been invested outside the region due to the limited choice of alternative investments in the region. The high savings rate and foreign reserves could be used to the benefit of countries in the region. The high savings rate could stimulate growth through an increase in domestic consumption and regional integration in trade, investment, and financial market. Meanwhile, the high reserves would provide a cushion against possible adverse economic events as well as serve as a potential pool of money that could be used to strengthen the regional bond market[11].

Motivated by a number of considerations, in particular the desire to self-insure against sudden halts in the access to international markets or periods of capital flow reversals, many countries over the past few years, prefer to develop the domestic bond markets instead of developing the international bond market[12]. The rotation from external to domestic debt has already occurred in some of the major emerging economies[13]. As a result, the total trade in emerging market domestic debt is now larger than trade in international bonds issued by emerging markets. Over 1994-2000, domestic bonds issuance in Asia amounted to USD661 billion, or accounted for 72% of total bonds issuance[14].

Many studies also show that in order to develop the domestic bond market, it is important first to develop an efficient government bond market[15]. Many studies have therefore, focused on the government bond market[16] and in fact for many emerging-market countries, bond market development starts with the development of a government bond market[17]. The reason for this is not only because governments are usually the largest domestic borrowers and have the best credit in the nation, but also because governments affect the scope and potential for market development throughout the economy. By strengthening the government bond market, it makes it possible for a corporate bond market or an asset backed securities market to develop. Government bonds are important for

11. *See* Dalla 2003.
12. *See* BIS 2002.
13. *See* BIS 2002. These emerging economies, among others are Brazil, Chile, Hungary, India, the Republic of Korea, Malaysia, Mexico, Poland, South Africa, and Turkey.
14. Data taken from Mihaljek cs. 2002.
15. *See* Kim and Suleik 2001 and Rhee 2000.
16. Among others, World Bank and the IMF had published a comprehensive hand book of government bond, G10 has also conducted many studies on the liquidity of government bond markets.
17. *See* Masci and Rowland 2003.

indicating the risk free rate in the country and could serve as the best benchmarks in pricing corporate debt.

2.2 Regional Initiatives to Develop Regional Bond Market

In addition to the efforts being made by each country to develop their domestic bond markets, many countries have also embarked on a regional initiative to promote the development of the regional bond market. The basic idea is to mobilise the region's savings for their own direct use for investment and development in the region. This will therefore, reduce the problems of maturity and currency mismatch, making the region more resilient against fluctuations in the international capital market.

Aside from providing stable and long-term financing alternatives, this would also help strengthen the financial system in the region by providing alternatives for investment, as well as support economic growth through more stable financial systems. Development of the regional bond markets would also lead to increased efficiency[18].

Considering its potential benefits to the region and in individual countries, the development of a regional bond market, in particular the Asian bond market, has been discussed in various international fora. These include the ASEAN Finance Ministers Meeting, the Executives Meeting of East Asia-Pacific Central Banks (EMEAP), Asian Cooperation Dialogue (ACD), and the Asia-Pacific Economic Cooperation (APEC).

The ASEAN+3 and APEC are both working on the development side of bond markets, including the removal of barriers impeding the issuance of bonds both in the regional and domestic contexts respectively. In addition, there has been cooperation in setting up the necessary infrastructure for such a regional bond market, including a regional credit rating agency, as well as credit enhancement facilities. On the demand side, central banks in the region under the Executives Meeting of East Asia-Pacific Central Banks - or EMEAP – have established an Asian Bond Fund. Under this initiative, central banks have set aside a fraction of their reserves into a pool that will be invested in bonds issued by Asian governments and government enterprises, with the ultimate aim of providing a catalyst for private investors considering investments in Asian issues.

18. *See* Phuvanatnaranubala 2003, and Yung-Chul Park and Daekeun Park 2003.

3. Motivation for Developing Domestic Bond Market in Countries under Study

The main motivation for developing bond markets may vary and would depend on the different histories of countries and on economic factors, such as experience with inflation, restructuring measures after the crisis and others[19]. Specifically, the objectives may relate to financing government deficit, funding bank restructuring, providing an alternative to bank credit, risk diversification in the financial system, conducting monetary policy, sterilising capital inflows, providing a range of long-term assets for pension funds, etc.

The motivation for developing domestic bond market in countries under study is varied. Some were driven by the need to develop alternative sources of funding their fiscal deficit such as happened in Fiji, Philippines, and Taiwan, while in the case of Indonesia, Korea, and Thailand the common motivation rested on the need to restructure financial sector. Malaysia and Nepal were motivated by the need to finance economic development. Meanwhile, bond market development initiatives in Brunei and Sri Lanka were similarly driven by the desire to develop the financial system.

Up to now, there is almost no bond market in Brunei Darussalam. However, in recognition of benefits to be garnered from developing the bond market, Brunei in the future, may issue government securities. The reasons are, among others, to provide liquidity investment opportunities, to serve as a benchmark, to further develop the financial sector, to attract inflow of Brunei dollars, and to develop the interbank market. In Fiji, the main motivation of developing the bond market is to finance its fiscal deficit. Over the years, Fiji has almost entirely financed its fiscal deficit domestically through the issuance of government bonds. External borrowing is relatively small and has been mainly tied to infrastructure project. Fiji prefers to borrow domestically since it would avoid the foreign exchange risks and reduce charges such as commitment fees associated with offshore borrowing.

Recapitalisation of banks appears to have been the driving force in developing the domestic bond market in Indonesia. Since the crisis, outstanding government bonds grew at a rapid pace given the need to recapitalise and restructure the banking sector. The Indonesian government issued recapitalisation bonds (recap

19. *See* Reddy 2002.

bonds) through the Indonesian Bank Restructuring Agency (IBRA). In Korea, during the Asian financial crisis, the government injected huge amounts of public money into the financial sector to recapitalise, restructure banks, to boost the depressed economy and was aimed at addressing the problems of the corporate bond market as well. As most corporate bonds were guaranteed by the commercial banks, the bond market was tied in with the banking sector.

Malaysia issued domestic bonds to meet the massive funding needs required by the country's economic development. In the mid 1980s, the private sector began to play a greater role in the economy, while the public sector provided active support. With the escalation of these activities in 1990s and the government's increased funding for its privatisation programme to cover infrastructure, utilities, and transportation projects, the need to develop domestic bond market became necessary. In Nepal, the main objectives for issuing government bonds are to finance the government's need and meet the payment obligations at the lowest possible cost. Other reasons for issuing government bond include motivating domestic savings and investment through efficient money market mechanism.

The Philippines government has borrowed fund domestically to cover budget deficits. Over the years, government expenditures have risen to provide basic social and economic services. Public debt instruments have thus become a vehicle through which the government broadened their financing base to meet massive requirement that could not be serviced entirely by tax revenues. In Sri Lanka, as an important element of the liberation process in 1977, the government has identified the importance of developing the domestic bond market, especially for government bonds. These securities are the main stem of the fixed income securities markets which is important for the development of the entire financial system. This development has been accelerated in line with the financial sector reforms and restructuring programme in the recent past.

In order to stimulate the economy, the Taiwan government since 1991, has greatly increased the issuance of central government bonds to finance the rising budget deficits. Meanwhile, the driving force behind the development of corporate bond market in Taiwan is the need to minimise the cost of capital. In Thailand, the bond market started to develop significantly in the wake of the crisis, to rebalance the financial system since previously it had been overly reliant on the banking system.

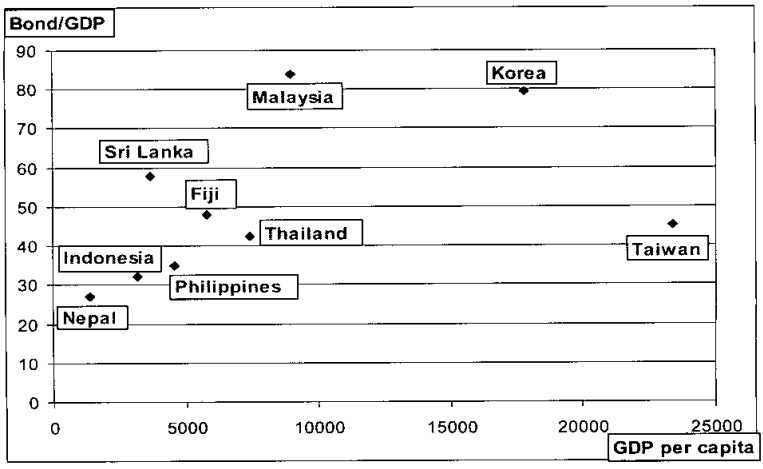
4. Development of the Domestic Bond Market

4.1 General Overview

The ratio of bond markets relative to gross domestic products (GDP) in countries with higher GDP per capita tend to be greater than those of countries with lower GDP per capita. It seems that there is a positive correlation between the level of bond market development and per capita income. In cross country comparisons (*see Figure 1.1*), it is notable that bond markets tend to be larger, relative to GDP, in countries with higher GDP per capita, although there is an exception in Taiwan. This confirms findings by Hawkins[20], and Klingebiel et.al[21] that financial markets tend to develop as income per capita grows and financial reform progresses.

It is also found that the banking market tends to be developed before bond markets[22]. Yoshitomi and Shirai offered some arguments for this[23]. First, in

Figure 1.1: Bond Market and GDP per Capita (PPP) in Selected SEACEN Countries (2003)



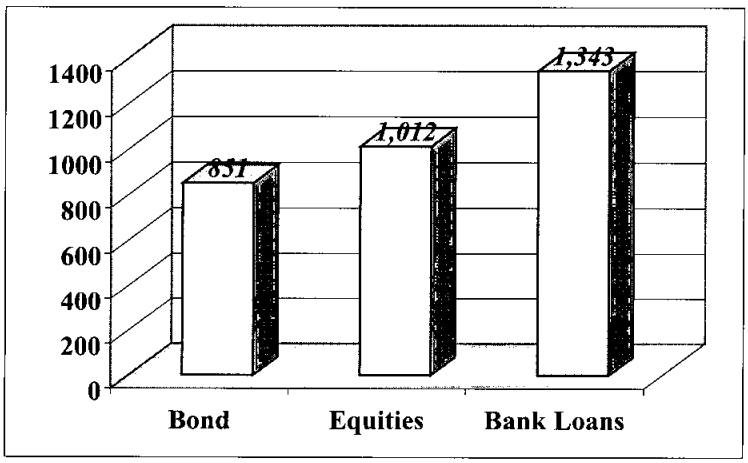
Sources: Country Papers, Dalla 2003, and CIA World Fact for GDP per capita (PPP calculation)

20. *See* Hawkins 2002.
21. *See* Klingebiel, D et.al. 2002.
22. *See* Hawkins 2002.
23. *See* Yoshitomi, M and S. Shirai 2001.

countries with lower GDP per capita, individuals tend to have a greater preference for liquid short-term bank deposits instead of for bonds. Second, institutional investors in countries with lower GDP per capita are generally underdeveloped or non-existent. Third, only few companies are sufficiently large and reputable to issue bonds; and lastly, the requisite informational, legal and judicial infrastructure in countries with lower GDP are not in place.

The total combined size of bond markets in the SEACEN countries under study at the end of 2003 was below that for bank loans and equities *(Figure 1.2)*. Except in Fiji, in all the countries under study, bond markets were smaller compared with bank loans *(Table 1.2)*. Malaysia and Taiwan were the two countries with total equity markets greater that their GDP (163% of GDP and 143% of GDP respectively), far above the average of the region which stands at 68%. Taiwan also has the largest market for bank loans which is 143% of GDP, followed by Malaysia at 120% and Korea at 101%. These are far above the average of the region which is at 91%. Meanwhile, Malaysia has the largest domestic bond market which is 83% of GDP, higher than the average of the region which is 57%. As mentioned earlier, in the past the private sectors in the region had traditionally relied heavily on bank credit as the major source of financing.

Figure 1.2: Bonds, Equities, and Banks Loans
In USD billion



Sources: Country Papers and Dalla 2003

Sources: Country Papers and Dalla 2003

Table 1.2
Financial Sector Profile, 2003
Outstanding

	Bonds		Equities		Bank Loans	
	USD billion	% GDP	USD billion	% GDP	USD billion	% GDP
Brunei	n.a	n.a	n.a	n.a	n.a	n.a
Fiji	1.2	48.6	0.4	17.6	0.8	32.0
Indonesia	51.5	20.9	54.4	22.1	51.7	21.0
Korea[1)]	481.4	79.5	215.7	35.6	608.6	100.5
Malaysia	86.3	83.2	168.5	162.5	124.7	120.2
Nepal[2)]	1.1	27.5	n.a	n.a	n.a	n.a
Philippines	28.7	40	48.7	68	33.0	46
Sri Lanka[3)]	10.5	57.8	n.a	n.a	n.a	n.a
Taiwan	129.8	45.3	408.8	142.5	411.3	143.4
Thailand	60.6	42.4	115.3	80.7	113.2	79.2
Total	**851.1**	**57.4**	**1,011.9**	**68.3**	**1,343.3**	**90.7**

1) Equities and Bank Loans Taken from Dalla 2003
2) Year 2003/04
3) Government Domestic Debt, including T bills and non-marketable debt

Sources: Countries Paper and Dalla 2003

The relatively high ratio of bond markets in the region are related to the rapid growth of domestic bond markets in many countries. The bond markets in the countries under study have expanded considerably since the Asian crisis. They have more than doubled in size between 1997 and 2003. The total outstanding amount of bonds reached USD851 billion by end-2003 from only USD369 billion in 1997 *(see Table 1.3)*. Indonesia registered the fastest growth followed by Thailand. The bond market size in Taiwan, Malaysia, and Korea more than doubled during the same period. In Fiji, Philippines and Sri Lanka, the domestic bond market growth was slower during the same period.

Table 1.3
Domestic Bond Market in Selected SEACEN Countries (in billion USD)

	1997	2003
Brunei	n.a	n.a
Fiji	1.0	1.2
Indonesia	0.5	51.5
Korea	237.9	481.4
Malaysia	35.3	86.3
Nepal	0.6	1.1
Philippines[1)]	18.5	28.7
Sri Lanka[2)]	6.3	10.5
Taiwan	51.4	129.8
Thailand	17.4	60.6
Total	**369.0**	**851.1**

1) Taken from Asian Bond Monitor 2004
2) Domestic Debt Securities including T bills and non marketable

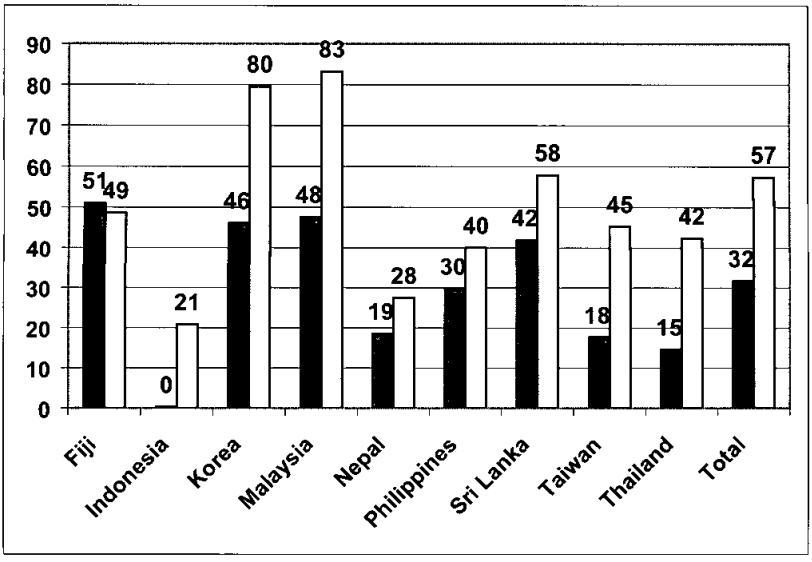
Sources: Country and Asian Bond Monitor 2004

4.2 Size and Structure

Figure 1.3 shows that the development of bond markets varied greatly across countries in the SEACEN region. Measured as a percentage of their size of economies, the total domestic bond outstanding as a percentage of combined GDP increased rapidly to become 57% at the end of 2003 from 32% at the end of 1997. Malaysia has the largest domestic bond market in the region amounting to 83% of GDP with Korea in second at 80%, followed by Sri Lanka at 58%, Fiji at 49%, Taiwan at 45%, and Thailand at 42%. Corporate bonds have made major contributions to bond market development in Malaysia, while asset backed securities have contributed largely to the development of the domestic bond market in Korea.

Korea emerged as the dominant asset backed securities market in the region followed by Malaysia. Within four years, Korea had become the largest asset backed securities market in Asia outside Japan[24]. This instrument was introduced by financial institutions in 1997 to address problems in their non performing loans. To facilitate securitisation, the Korean Government enacted the Asset-Backed Securities Act in September 1998[25]. To complement this Act, the government also passed the Mortgage-Backed Securitization Company Act in 1999 to foster residence mortgage backed securities[26].

Figure 1.3
Domestic Bond Market Development in Selected SEACEN Countries in 2003 (% of GDP)

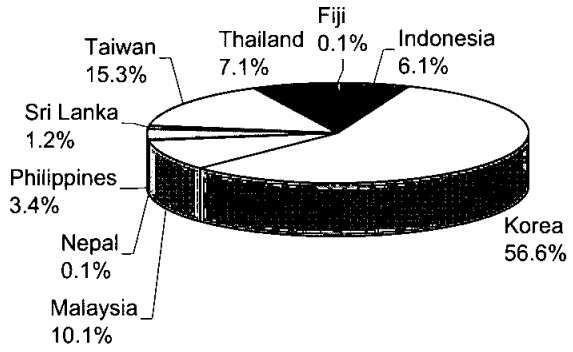


Sources: Country Papers and Asian Bond Monitor 2004

Bond markets in Korea stood at USD481 billion, or made up more than half of the total market in the region (57%), while in several countries such as Nepal and Fiji, the bond market only stands at around USD1 billion, or about 0.1% of total bonds in the region *(see Figure 1.4)*.

24. *See* Dalla 2004.
25. *See* Dalla 2004.
26. *See* Dalla 2004.

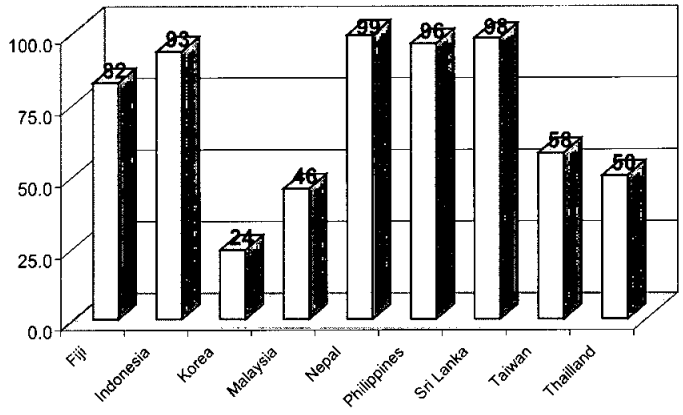
Figure 1.4
Composition of SEACEN Bond Market (%)



Sources: Country Papers and Asian Bond Monitor 2004

The combined size of the bond markets in these 10 economies stands at USD851 billion, or just about 5% of the USA bond market which is at USD17.6trillion[27]. The total bond market size in the region is also low compared to the total bond market size for the EU15 countries which is at USD10.4 trillion, and with Japan at USD8.2 trillion.

Figure 1.5: Government Bonds Dominate the Market
(% of GDP)



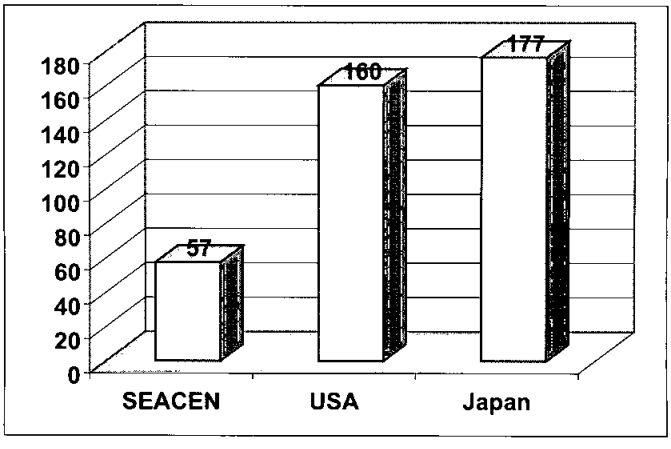
Sources: Country Papers

27. The figure for US bond market in 2003 was USD 17.6 trillion, taken from Asian Bond Monitor 2004, Asian Development Bank.

Government bonds dominate the domestic bond market in the region (*See Figure 1.5)*. Almost all of domestic bonds in Nepal, Sri Lanka, Philippines, Indonesia and Fiji were issued by the government. Government bonds grew substantially after the crisis, reflecting measures to develop alternative channels of financial intermediation as well as funding the restructuring of banks and providing stimulus to support economic recovery in the aftermath of the crisis. In the post-Asian crisis, domestic debt transfers from the private sector to the government have prevailed especially in Korea, Indonesia, and Thailand due to the recapitalisation of the financial sector. Other reasons for the lower private bond issuance can be attributable to lower credit ratings which makes private sector bonds less attractive to international and local investors. The exception is Korea and Malaysia, where the total amount of outstanding corporate bonds has been higher than that of government bonds.

Despite considerable growth, bond markets in this region remain small compared to those of developed countries. At the end of 2003, total domestic bonds outstanding for economies under study amounted, on average, to 57% of GDP at the end of 2003, lagging behind those of the United States or Japan *(Figure1.6)*. In these countries, the outstanding domestic bonds are greater than their GDPs which stood at 160% and 177% respectively. These figures indicate that bond markets in the SEACEN region are generally under-developed with plenty of room for improvement, given their high savings ratio and accumulation in foreign reserves.

Figure 1.6 Size of Domestiç Bonds in 2003
(% of GDP)



Sources: Country Papers and Asian Bond Monitor 2004

The profile of domestic bond holders vary from country to country but generally, it is safe to say that commercial banks are still the major holders of bonds. Commercial banks are the major holders of government bonds in Indonesia, Korea, Taiwan, Thailand, Nepal, and Philippines. Meanwhile in Malaysia, Fiji and Sri Lanka, the provident/pension funds are the largest investors in government securities. In Malaysia, the Employees Provident Fund holds 65% of government bonds in 2003 largely because of statutory requirements that necessitate provident funds, insurance companies, and financial institutions to invest in government bonds. Meanwhile, the provident fund in Fiji holds almost three fourth of total government bonds. In Sri Lanka, 39% of treasury bonds are held by the provident fund.

Even though commercial banks remain the major investors in the bond market, there is a trend towards a decline in their bond holdings while those of contractual savings institutions are increasing. There has been a shift away from buy-and-hold bank holdings towards more institutional and retail investment in government bonds. In some countries, commercial banks' holdings of government bonds fell quite significantly, while contractual savings institutions, such as pension and mutual funds, have become significant investors[28]. Therefore, institutional investors are seen to be the key to the future development of bond markets in many countries.

Some countries extended the maturity profile of their debt, recognising the benefits of having a benchmark for longer maturities. Several countries have lengthened the maturity of government bonds to build benchmark yield curves such as 10 years for Korea, 15 years for Fiji, 18 years for Thailand, 20 years for Malaysia and Philippines, and 30 years for Taiwan.

4.3 Bond Market Infrastructure

4.3.1 Regulatory Framework

Apart from having sound macroeconomic policies, an effective regulatory and supervision framework for the bond market, intermediaries, institutional and other market participants are required to foster the development of a robust bond market[29]. This framework, in turn will foster adequate investor protection and sound business practices or code of conduct that will reduce systemic risks[30].

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28. *See* Asian Development Bank 2004.

29. *See* APEC 1999 in Dalla 2003.

30. *See* Dalla 2003.

In Fiji, the RBF supervises financial institutions while the capital market is supervised by the Capital Markets Development Authority (CMDA) which has been fully operational since January 1998. In Malaysia, before the Asian financial crisis, Bank Negara Malaysia, the Securities Commission and various other government agencies were involved in regulating the bond market. Later on, recognising the need to create efficiency in the regulatory framework and the importance of accelerating the development of the corporate bond market, an inter-agency committee, the National Bond Market Committee (NBMC) was set up in 1997. This committee comprises senior government representatives from the Treasury, Central Bank, Registrar of Companies, The Malaysia Stock Exchange and the Securities Commission. The NBMC has entrusted the Securities Commission as the single regulating body to regulate and promote the development of the corporate bond market.

In practice, the public debt management department of the Nepal Rastra Bank undertakes the responsibility of implementing government domestic bonds, while the HMG/N, Ministry of Finance manages external government debt. In Sri Lanka, the laws governing the government bond market include Registered Stocks and Securities Ordinance (RSOO), Monetary Law Act (MLA), and Annual Appropriation Act (AA). The supervision and enforcement of regulations on bond market operations are exclusively under the authority of the central bank. In addition, the Securities and Exchange Commission (SEC) has also issued regulations to permit specialised debt trading members to trade bonds in the stock market.

The Public Debt Management Office, an agency in the Ministry of Finance in Thailand, is responsible for debt management. In the Philippines, the Securities and Exchange Commission, the BSP, and the Department of Finance regulate different aspects of bond markets in the country.

In Korea, the Financial Supervisory Commission (FSC) and its executive arm, the Financial Supervisory Service (FSS) is a unified financial supervisor for all financial supervision. In addition to FSS, the Securities and Futures Commission (SFC) was set up to oversee the securities and futures markets.

The main regulatory authorities in Taiwan include the Ministry of Finance (MoF), the Central Bank of China (CBC), and the Securities and Futures Commision (SFC). The MoF in Taiwan is the competent authority for central government bonds. The CBC consults the MoF on the tender sale of bonds and

the qualifications of the bidders, while the Taiwan Stock Exchange and Gre Tai Securities Market (GTSM) are authorised by SFC to supervise the centralised market and OTC market respectively.

4.3.2 Clearing and Settlement System

The system used in clearing, making payments and settling the securities are crucial for the development of the bond market. In most countries, the clearing and settlement system in government bonds is centralised at the central bank. Many countries under study have advanced clearing and settlement systems, and have adopted scripless trading and RTGS/DVP systems on a transaction-by-transaction basis.

In Taiwan, since September 1997, bonds are no longer issued in the physical form but in the book entry-form. In October 2001, treasury bills were added to the system. Taiwan has already adopted the RTGS and delivery versus payment system. In 2001, Fiji successfully completed and launched its book entry system. Up to now, Fiji does not have a scripless trading system and is working towards implementing a RTGS system for large value transactions.

In Malaysia, the Fully Automated System for Issuing/Tendering (FAST) was established in 1996 for the primary market and in the same year, all securities were made scripless. The settlement of market transactions are executed through the sripless securities trading system, which is the part of the real time electronic transfer for funds and securities (RENTAS) system that is a real time delivery versus payment. The database for bonds in Nepal is still in the manual format but it is preparing the legal groundwork for the book entry system format. Thailand developed the DvP system in 2001 with the aim of reducing settlement risk and Thai bonds are transferred on a book entry basis.

Since February 2004, Indonesia has operated the Bank Indonesia Scripless Securities Settlement System to facilitate the online settlement of book entry government securities. In Korea, clearing and settlement of government bond transactions are settled through securities accounts in the Korean Securities Depository (KSD) and funds are transferred through BOK accounts via BOK-wire on the same day. A delivery versus payment (DvP) system was introduced in November 1999. In the Philippines, government securities are settled through the Registry of Scripless Securities (RoSS). Meanwhile, the implementation of DvP for transactions on secondary trading of government started in August 2004.

4.3.3 The Local Credit Rating Agencies

To boost their bond markets and promote investor protection, several countries under study have established local credit rating agencies *(See Table 1.4)* with some countries having more than one rating agencies in operation.

The earliest of the countries to establish a local agency is the Philippines which established the Credit Information Bureau Inc. in 1982 which then became the Philippines Rating Services Corporation (PhilRatings). Malaysia established the Rating Agency of Malaysia (RAM) in 1990, and in 1996 started the Malaysia Rating Corporation. In Indonesia, PEFINDO (Credit Rating Indonesia, Ltd), which is the sole credit rating agency, was established in 1994.

Table 1.4
Local Credit Rating Agencies in SEACEN Region

Country	Credit Rating Agency	Established
Brunei	No local credit agency	
Fiji	No local credit agency	
Indonesia	Pefindo Credit Rating Agency	1995
Korea	Korea Ratings	1983
	Korea Investors Service	1985
	National Information and Credit Evaluation Inc	1986
	Seoul Credit Rating & Information, Inc	1992
Malaysia	Rating Agency Malaysia Berhad	1990
	Malaysian Rating Corporation Berhad	1995
Nepal	No local credit agency	
Philippines	Credit Information Bureau Inc./ Philippines Rating Services Corporation (PhilRatings)	1982
Sri Lanka	Duff and Phelphs Credit Rating Lanka, Ltd/ Fitch Rating Lanka	1999
Taiwan	Taiwan Rating Corporation	1997
Thailand	Thai Rating and Information Services	1993
	Fitch Ratings (Thailand) Limited	2001

The Thai Ratings and Information Service (TRIS) and Fitch Ratings (Thailand) Limited are credit rating agencies in Thailand. In Korea, three credit rating agencies were established during the 1980s including Korea ratings, the Korean Investors Service, and the National Information and Credit Evaluation Inc. Due to the rapid increase in asset backed securities (ABSs), the Seoul Credit Rating & Information Inc. were established in 1992. In Sri Lanka, the Duff and Phelps Credit Rating Lanka Ltd which later on became Fitch Rating Lanka (FRL) was established in 1999. Taiwan has one local credit rating agency while there are no local credit rating agencies in Fiji, Brunei and Nepal.

5. Challenges and Strategies to Develop Well-Functioning Bond Market

5.1 Factors Hindering Bond Market Development

The Asian Development Bank in 1999 identified four key impediments to the development of long-term bond markets in the Asian region[31]. These are: (i) lack of a benchmark yield curve, (ii) limited supply of quality bond issues, (iii) limited bond demand and, (iv) inadequate bond market infrastructure. The benchmark yield curve is vital for efficient functioning of the primary and secondary markets, and would provide a reference for pricing private sector debt securities. The limited number of quality bond issues and limited bond demand has impeded the liquidity and construction of benchmark instruments. Adequate infrastructures, both legal and operational, are vital to support trade and transfer of instruments and funds.

Although the specific reasons may vary in individual countries, many countries under survey share common problems in their efforts to develop their bond markets. These include underdeveloped secondary markets, shallow bond markets and limited supply of bond issues. In less developed bond market countries, the basic market infrastructure such as a good data base for market management is still lacking. Meanwhile, for countries in which bond markets are relatively more developed, they face specific problems such as tax treatment, the implementation of short-selling of bonds, the absence of true dealers in the sense of market makers and the absence of bid-ask price quotations. Other important factors are the lack of auction schedules, hedging instruments and derivative markets.

31. *See* Jonathan Batten and Yun-Hwan Kim 1999.

The reason for the underdeveloped secondary market in many countries is mainly caused by a buy and hold strategy of the major investors which dominate the market. Many buyers in these countries tend to hold their bonds until their maturity, e.g., in Fiji, Indonesia, and Malaysia. In addition to this, the problem of underdeveloped secondary market could be caused by limited readily available information on bond prices and trading activity such as in Indonesia. It could be also caused by listless market making activities and the not very transparent brokerage style such as in Korea.

The underdeveloped secondary market has affected bond market liquidity and is the main problem in many SEACEN countries under study. A liquid market is needed to construct a reliable yield curve, to promote the corporate and secondary markets, and to reduce transactions costs in the clearing and settlements system. A liquid market is also important to attract international investors, facilitate the development of forward and futures markets, and influence the effectiveness of central bank's monetary policy.

Except in Taiwan, bond market liquidity is very low in the countries under study as evident in the low turnover ratio—the ratio of trading volume (excluding repurchase transactions) to total bonds outstanding. While the annual turnover ratio for government bonds in Taiwan is extremely high (which was 49 in 2003), the annual turnover ratio for government bonds in other countries under survey were low, ranging from less than 0.5 in Indonesia to about 3 in Korea[32]. In fact, the turnover ratio in Taiwan was even higher than that of the USA which stood at over 30[33]. In Taiwan, the bond market trading value was 10 times that of the stock market, and outright purchases and sales value was 6.2 times that of the stock market.

However in the other countries, market liquidity is lower for corporate bonds, with annual turnover ratios of below 0.5 for Indonesia, and Thailand[34]. Korea and Malaysia, two of the largest corporate bond markets in the region, have a higher turnover ratio of about 1.4 and 1.1, respectively, but these are only about half of the respective turnover ratios for government bonds[35].

32. *See* Asian Monitor Bond 2004
33. *See* Asian Monitor Bond 2004.
34. *See* Asian Monitor Bond 2004.
35. *See* Asian Monitor Bond 2004.

Kim mentioned that the lack of liquidity in Asian countries could be due to the lack of market making mechanism, the inability to access information, the buy-and-hold strategies of the institutional investors which dominate the market, and regulations and taxation that inhibit trading[36].

The relatively low liquidity in the markets had provided little incentive for active participation by both issuers and investors. The lack of public awareness on the various types of securities offered in the market, such as in Fiji, have also affected market development as with the lack of local institutional investors. Only a small number of institutional investors are actively trading bonds. Moreover, many institutions that do so tend to adopt a buy-and-hold strategy which does not help in creating a liquid secondary market. The small number of market players and a narrow investor base cannot generate sufficient demand for private players to act as market-makers, stifling competition and market liquidity such as the case for Thailand.

The limited number of quality bond issues has also impeded the liquidity and construction of benchmark instruments. In Thailand, the limited ability of the government to issue bonds in the maturity and amount in accordance with market needs have hindered bond market development in the country.

Tax treatment for foreign investors is considered to be the factor hindering bond market development in Taiwan. Until now, there is a withholding tax imposed on bond interest earned by foreigners and since there is no tax treaty between Taiwan and other countries, non-citizens will be taxed twice. Another factor in Taiwan is the unpopularity of short-selling of bonds even though it has been allowed. Meanwhile in Sri Lanka, the restriction on foreign investment has also impeded the development of bond market which has limited the size of the investor base to only local investors.

Another possible impediment is the lack of systemic auction schedules for government bond issues in the primary market[37]. There is a need for a regular, announced schedule so that investors could plan and better manage their investment programmes. In addition, the lack of a derivatives market and hedging instruments such as interest rate options, futures and swaps, are also factors which affect bond market development. With the use of derivative products, some types of risks may be segregated and transferred among market participants.

36. *See* Yun-Hwan Kim and Merceded Suleik 2001 and Parrennas 1990

37. *See* Yun-Hwan Kim and Merceded Suleik 2001.

5.2 Past Efforts/Recent Initiatives

Many countries under study have introduced a comprehensive set of measures and policy initiatives, at national and regional levels, to facilitate the development of domestic bond markets. These measures include[38] (i) strengthening the legal and regulatory framework, (ii) extending benchmark and adopting an auction system; (iii) increasing demand for domestic bonds; (iv) improving market infrastructure; (v) improving market liquidity; and (v) promoting regional cooperation in developing bond markets.

In general, it is safe to say that many of the legal and regulatory framework for capital markets has been strengthened in many countries under study in recent years. Taiwan implemented the policy of offering an appropriate amount of public debt on a periodic basis in 2002, started the re-open issuance of government bonds and implemented the primary dealers systems in 2003. Immediately after the crisis, Korea started to reform the market and in 1997, the bond market was opened to foreign investors. In 1999, a primary dealer system was introduced. An inter-dealer market was created for the KGBs and the Korea Futures Exchange (KOFEX), the first derivative exchange in Korea, was also established in the same year.

Recognising the importance of accelerating the development of the corporate bond market and the need to create efficiency in the regulatory framework, Malaysia set up an inter-agency committee, the National Bond Market Committee (NBMC) in 1997. This committee comprises senior government representatives from the Treasury, Central Bank, Registrar of Companies, The Malaysia Stock Exchange and the Securities Commission. The NBMC has entrusted the Securities Commission as the single regulating body to regulate and promote the development of the corporate bond market.

Fiji established the Capital Market Development Authority (CDMA) in January 1998 to regulate the capital market. Nepal is preparing a draft for approval on primary and secondary market transactions of government securities regulations. Thailand had changed some regulations to accommodate the bond market, ranging from the enactment of public debt management, the amendment

38. *See* Asian Development Bank 2004.

of the SEC Act, the clarification of regulation and the expansion and policy statements to cover the newly developed transactions. In 2002, Indonesia enacted the Government Debt Securities Law to provide a legal basis related to government securities.

Several countries such as Indonesia, Korea, Malaysia, Philippines, and Thailand, have extended their benchmark yield curves. Recognising the importance of having a reliable market-based benchmark yield curve, Malaysia introduced several steps to develop the benchmark, which included the regular issuance of Malaysian Government Securities of various maturities, and introducing the auction calendar in 2000. Another measure to promote the market has been the adoption of a primary dealer system. Malaysia and Korea introduced a primary dealer system in 1998 while several countries, including Indonesia, are still relying on banks and institutional investors for creating the market.

Several initiatives have also been introduced to increase the demand for domestic bonds, specifically to widen the investor base for domestic bonds by promoting the development of contractual savings institutions such as pension funds, mutual funds, insurance companies, and trust operations at commercial banks. Malaysia undertook several measures such as the relaxation on the minimum investment requirements imposed on the Employee Provident Fund (EPF) in 1992, relaxation on the minimum requirement a licensed insurer need to invest in government securities in 1996, and introduced a new liquidity framework for the banking institution in 1998 to help free up the captive demand on government securities.

Thailand introduced a government pension fund (GPF) in 1997 while several other countries have also taken measures to increase the participation of individual and retail investors in bond markets. The Philippines introduced a small denomination treasury bond programme for individual investors, tradable on the local stock exchange. Individual investors in Korea have become eligible for direct purchasing of government bonds on the primary market in non-competitive auctions since 1999. Fiji actively disseminates relevant securities information such as tender results, price list, yield curve, and a comprehensive public sector borrowing schedule to the general public on a regular basis.

Market infrastructure has also improved in recent years. Most countries have introduced real-time gross settlement systems with delivery-versus-payment facilities to reduce settlement-related risk. In 1997, Taiwan switched bearer bonds

into a book-entry system, initiated an electronic trading network in 2001, and in 2003 instituted a price quotation system for corporate bonds and financial debentures. Almost all of the countries under study now have their own local credit rating agencies.

Many countries have taken various measures to improve the market liquidity. During the past three years, Taiwan has also set up various measures to improve liquidity. In 2002, short selling was allowed, and when issue market trading was started. In 2003, the trading of forward agreements for government bonds was started and the trading platform for exchanging price information between securities firms on corporate bonds and bank debentures was set up. Moreover in early 2004, a bond borrowing and lending centre was established and in the same year offered trading in futures contracts on government bonds, and the government bond index was also compiled. Malaysia had taken several measures to enhance liquidity in the bond market. These measures, among others, included the amendment to the Banking and Financial Act 1989 in 2000, and allowance of principal dealers to trade on regulated short-selling basis, and introduction of securities borrowing and lending (SBL) in 2001.

Regional cooperation in developing a regional bond market has been encouraging. The Asian Bond Markets Initiative was endorsed by ASEAN+3 Finance Ministers in August 2003. Other regional initiatives are also being worked on to develop bond markets. The Executive Meeting of East Asia Pacific Central Banks (EMEAP) Asian Bond Fund Initiatives focuses on the demand side of regional bond markets and has already launched the Asian Bond Fund 1 and Asian Bond Fund 2.

5.3 Measures Taken to Further Develop the Market

Since the stages of development of bond markets vary markedly among countries, the measures taken in individual countries to develop the bond market vary widely as well. In the countries with less developed bond markets, steps taken include improving the market infrastructure, such as better database management and switching to book entry form. Others have plans to develop a benchmark bond to create greater liquidity, to broaden investor base, and expand the liquidity of bonds in the secondary market. In more developed countries, steps are being taken to broaden the variety of instruments.

Fiji has planned several measures to develop the securities market by developing a benchmark bond to create greater liquidity and to promote secondary trading, and introduce a retail debt instrument for small individual investors while Nepal plans to further develop the market by increasing the supply of marketable securities, developing a secondary market, introducing an auction system, switching to book entry form, widening the investor base and improving data base management. Thailand has plans to broaden the market, to reform the primary dealer system, to develop the secondary and derivative markets. Meanwhile, Malaysia has planned to introduce several measures to enhance liquidity, such as encouraging market participants to actively use repos as an alternative funding instrument.

As mentioned earlier in the previous section, the domestic bond markets in the region are mainly dominated by government securities. As such, there is a need to broaden the variety of bond instruments to increase investor participation and liquidity. Therefore, introduction of instruments such as mortgage-backed securities, corporate bonds, municipal bonds, and asset-backed securities would contribute greatly to this. In recent years, asset-backed securities (ABS) have gained popularity in a few countries such as in Korea and Malaysia.

Taiwan has proposed to broaden the investor base by allowing small and medium scale enterprises to tap the capital in the bond market through asset securitisation and credit enhancement mechanisms. Such an arrangement will not only lower the cost capital for SMEs, but will also increase the liquidity and creditworthiness of the bonds issued.

Concerning the diversification of hedging instruments, Korea has proposed the elimination of withholding tax on interest earnings from bond investment to stimulate the repo market. In addition, there are also plans to lessen investment risks on corporate bonds in order to broaden the investor base for corporate bonds.

Based on the experiences of countries where domestic bond markets are developed and of emerging markets with successful bond markets, ADB offers several measures that could help increase liquidity[39]: (i) introducing a When-Issued (WI) market; (ii) introducing Separate Trading of Registered Interest and Principal of Securities (STRIPS); and (iii) developing fixed income derivatives markets.

39. *See* Asian Development Bank 2004.

In most developed markets, trading during the period between the announcement and issue date (ranging from one- to two-weeks) is allowed and the issue is said to trade "when, as, and if issued." WI trading is similar to trading in a futures market, allowing long and short positions to be taken before the settlement date. A major benefit of WI trading is the minimisation of price and quantity uncertainties associated with competitive auctions. Trading on a WI basis facilitates bond price discovery and the issuing process. With competitive auction methods becoming the norm in the region, local currency bond markets would benefit from the introduction of WI trading. Among the countries under study in the region, only Malaysia and Taiwan have implemented the When Issue trading of government bonds.

Separate Trading of Registered Interest and Principal of Securities (STRIPS) allow principal and interest components of designated government securities to be separated and traded, creating highly liquid zero-coupon bonds and notes. They help broaden the bond investor base and create a continuous benchmark yield curve over a wide range of maturities where existing government bond issuances may be incomplete. Japan recently allowed designated primary dealers to operate coupon stripping and reconstructing of STRIPS.

Futures exchanges have yet to expand sufficiently to act as an effective tool for hedging interest rate exposures in many countries. Interest rate swap markets are also underdeveloped or illiquid in many countries. The lack of proper regulatory environment and market infrastructure are also impediments to the development of the derivatives market. Any regulatory or policy initiative to foster the development of hedging instruments, however, should consider linkages among various derivatives products and between derivatives and cash markets. Tax incentives should also be considered to enhance the development of the derivatives market.

In developed markets, active interest rate swaps accompany active futures markets. These in turn, encourage greater assumption of risk in cash markets, which then feeds back into demand for derivatives products, creating a circularity that further increases liquidity. Among the countries under study, Korea, Taiwan and Malaysia have already developed derivative markets such as future exchanges and interest rate swap markets.

6. Domestic Bond Market and Central Bank Policies

6.1 Why Central Banks are Interested?

There are several motivations and objectives as to why central banks are interested in developing domestic bond markets. First, the government bond market provides an avenue for the fiscal authority to tap a market-based non-inflationary source of deficit financing and therefore reduce the potentially damaging monetary financing of the government deficit. This major motive has generally been viewed as the key macroeconomic force underlying the development of the bond markets in industrial countries, in particular, the United States[40].

Second, bond markets would also provide the central banks with the instruments and markets for the implementation of monetary policy, and enable the use of market-based indirect monetary policy that could help strengthen monetary transmission channels. Where the government bond market is well developed, monetary policy is commonly conducted through open market operations and a repo market. Central banks could use government bonds as a direct instrument in open market operations to influence liquidity and interest rates. The changes in interest rates will influence savings and decisions on investments.

Moreover, the domestic bond market can also provide a benchmark yield curve and support the development of broad based money and capital markets. The benchmark yield curve is used to measure the prevailing interest rate structure, market expectation on future interest rate and inflation, as well as other risk premia. The term structure of interest rates would be an important indicator of how well and rapid the short-term policy interest rates would be transmitted to the long-term rates.

(1) Reduce the government's need to rely on the central bank for direct financing

Sound financial policy requires that the government fully funds any budget deficit by issuing securities to the private sector at market interest rates, and to refrain from borrowing from the central bank. Therefore, the establishment of domestic government bond markets can reduce the government's need to rely on the central bank for direct financing and thus reduce the potentially damaging

40. *See* Mihaljek et.al. 2002.

monetary financing of budget deficits. Issuance of bonds by the government directly to the central bank will be the most inflationary, and therefore, should be avoided.

Most governments in emerging economies stopped monetising their deficits during the 1990s, partly as a result of greater independence of central banks and their increased focus on price stability as the main objective of monetary policy. At the same time, government deficits have declined more slowly due to ongoing structural reform[41].

Some central banks in countries under study have taken steps to prohibit central banks from financing the government deficit. An example is Indonesia where the enactment of the new central bank act in 1999 prohibits the central bank from financing the budget deficit. However, the central bank is still obliged to advise the government whenever the government issues debt securities. Before the crisis, the Korean government sometimes financed part of its fiscal needs through borrowings from The Bank of Korea rather than issuing bonds. However, since June 1998, The Bank of Korea has not agreed to government requests for underwriting government bonds but instead has advised the government to issue all government bonds to the public at the market-based interest rates.

(2) Provide central banks with the instruments and markets for implementation of monetary policy.

The domestic bond market, in particular government bond, can provide central banks with the instruments for implementation of monetary policy. As shown in some developed countries, the bond market is an important conduit of monetary policy and there have been increased tendencies to implement monetary policy through open market operations. For countries with developed government bond markets, the purchase and sale of government securities in the secondary market by the central bank and an active repurchase agreement market are common methods to change the monetary base and implement monetary policy. In certain economies, due to the absence of a developed domestic bond market, the central bank often resorts to using direct credit controls as well as the issuance of its own instruments as important monetary policy tools.

41. *See* Mihaljek et.al 2002.

Many central banks under study have been using government bonds as a monetary policy instrument. For example, The CBC, Taipei conducts repurchase agreement (repo) transactions on government securities to inject funds in the banking system. Meanwhile, Bank Indonesia and Reserve Bank of Fiji use their own central banks certificates to conduct open market operations. Bank Indonesia is now considering using government bond as a monetary instrument but faces the problem of the lack of bond stocks to be traded for open monetary operations.

(3) Enables fiscal and monetary policies to be conducted independently of each other

A developed bond market enables fiscal and monetary policies to be conducted independently of each other. The government determines the parameters of its fiscal policy, while the central bank's decision on the expansion or contraction of the monetary base would be according to its monetary policy objectives. Any discrepancy can then be bridged through the government bond market in a manner that is consistent with monetary policy. This would be difficult, if not impossible, to accomplish without well-developed bond markets.

All of the countries under study stress that it is important to have a close coordination between fiscal and monetary policy. In this respect, sharing information concerning financial market and fiscal conditions is crucial.

(4) The shape of yield curve is important in assessing the market reaction to monetary policy.

The shape of the yield curve is especially important in assessing the market's reaction to monetary policy and hence a fundamental input in its design. A yield curve can be positive, neutral or flat. A positive yield curve, which is most natural, is when the slope of the curve is positive, i.e. the yield at the longer end is higher than that at the shorter end of the time axis. This is a result of people demanding higher compensation for parting with their money for a longer time into the future. A neutral yield curve is that which has a zero slope, i.e. is flat across time. This occurs when people are willing to accept more or less the same returns across maturities. The negative yield curve (also called an inverted yield curve) is one in which the slope is negative, i.e. the long-term yield is lower than the short-term yield. It is not often a common occurrence but has important economic ramifications when it does. It generally represents an impending downturn in the economy, where people are anticipating lower interest rates in the future.

Evidence for the predictive power of the slope of the yield curve has been found for industrialised countries including the United States[42]. Harvey, and Stock and Watson found that the slope of the yield curve to be a useful indicator for monetary policymakers[43] . The performance of this slope as a leading indicator of future economic growth has been well established. Studies by Estrella and Hardouvellis for the United States, Estrella and Hardouvellis for some European countries, Ricart et al as well as Sédillot for France, and more recently Hamilton and Kim have strengthened the evidence[44]. For instance, Hamilton and Kim show that the yield curve has flattened or become inverted prior to recessions.

Many countries have started to monitor the yield curve, considering its importance. The RBF in Fiji publishes monthly yield curves for government and statutory corporation cooperations. Taiwan has already generated a reliable yield curve that could serve as a valuable reference. At the beginning of 2003/04, Nepal constructed its first ever benchmark yield curve and Thailand has disseminated yield curve information to the public on a daily basis since 1999.

(5) Could predict economic growth

The development of financial markets, including bond markets, is widely acknowledged to be one of the crucial issues facing emerging markets that would have a noticeable impact on economic growth. Bond markets have historically developed in response to corporate sector demand for investment finance. This, in turn, should imply a positive relationship between the real economic growth and the size of bond markets. Mihaljek et.tal found a strong cross country relationship between economic growth and total size of bond market[45]. As countries expanded their output, they also tended to rely more heavily on domestic bond markets to finance growth. Several researches find a positive causal impact of financial development, including bond markets, on productivity and economic growth[46].

42. *See* Ben S. Bernanke 2004.
43. *See* Masci, P and B.M. Rowland 2003.
44. *See* Masci, P and B.M. Rowland 2003.
45. *See* Mihaljek et al 2002.
46. *See* Levide 1997.

(6) Bond market could relay monetary policy signal to other interest rate structures

It is found as well that the bond market could serve as an important instrument in relaying monetary policy signal to interest rate structures. The innovations in the monetary policy rate have a significant effect on the money market rate, which, through the term structure, raises the bond market rate. Finally, the rise in the bond market rate induces a rise in the bank loan rate[47]. The study suggests that investors financing their investments in the bond and bank loan markets will start feeling the effect of monetary tightening within the month of the tightening, with the effect peaking about one to four months after the initial tightening. The results further suggest that the effect of monetary tightening will have significant effects on real rates for about eight to nine months after the initial tightening.

(7) Leading indicator for banking fragility

In addition, it is found also that equity and bond markets are leading indicators for banking fragility[48]. Using option pricing, it has been shown that both indicators are complete and unbiased indicators of bank fragility and have been empirically tested using a sample of EU banks.

6.2 The Role of Central Banks in Developing Bond Market

Central banks have made varying and important contributions to the development of efficient bond markets. The major contribution of the central bank is to attain low and stable rates of inflation, a necessary condition for developing sound bond markets. Other ways are to utilise them, in particular government securities, as monetary policy instruments, acting as fiscal agent of the government, develop quick and reliable clearing and settlement systems, modify the legal and regulatory framework, promote market transparency, and promote the development of derivatives markets.

47. *See* Thórarinn G. Pétursson 2001

48. *See* Gropp et al 2002.

In addition, central banks may be involved in the government bond market as a cashier or registrar[49]. This need not involve any significant impact on the central bank balance sheet, or conflict with central bank independence, so long as it is clear that the central bank is not expected to support prices or transact to ensure an orderly market. There may be advantages to the central bank having such a role, as the information it acquires may facilitate liquidity management.

Mohanty suggests some policies central banks (or governments) can implement to promote liquidity in domestic bond markets, in particular in government bond markets[50]. These policies incude: (i) allowing the interest rate to be determined by market forces, (ii) improving coordination when central banks are directly involved in developing bond markets, (iii) helping to broaden the investor base, (iv) developing money markets, and (v) improving the depth of secondary markets. In order to improve the depth of secondary markets, Mohanty has suggested the following: (a) developing a repurchase market in government bonds for monetary policy operations and encouraging interbank repos in government bonds, (b) developing benchmark securities with high liquidity characteristics, (c) allowing market participants to short sell a security, (d) requiring mark-to-mark practice, (e) broadening the range of instruments, and (f) lowering or even eliminating tax on securities transactions. In the micro structure, measures which can be implemented include (a) improving trading arrangements, (b) improving market transparency, and (c) improving the clearing and settlement system.

Apart from these, the liquidity in domestic bond markets and the depth of secondary markets may further be improved by also considering other specific policy initiative such as: (i) development of an official trading venue to facilitate secondary trading, (ii) establishment of credit rating agencies and credit information systems to enhance price discovery process thus enable investors to effectively evaluate and price risks, (iii) liberalization of regulations on cross border transaction of longer dated instruments, and (v) development of innovative debt instruments such as hedge funds and derivatives.

In the countries under study, many central banks have had active roles in promoting the bond market. The Bank of Korea has made considerable efforts to help develop the country's bond market, including the government bond market. If before the crisis, the government sometimes financed its fiscal needs by relying

49. *See* Hawkins 2002.

50. *See* Mohanty 2002.

on borrowings from The Bank of Korea rather than issuing bonds, since June 1998, The Bank of Korea has advised the government to issue government bonds based on market interest rates. In addition, The Bank of Korea has improved the infrastructure for bond transactions by introducing an electronic competitive bidding process for government bonds using BoK-wire and adopting a delivery-versus-payment system for government bonds.

Bank of Thailand has appointed several financial institutions as primary dealers for bilateral repurchase (repo) transactions. These primary dealers will be counterparties for bilateral repo transactions with the BOT and act as intermediaries for other participants. To further enhance trading in the market and ensure that financial institutions have sufficient liquidity for their day-to-day operations, the BOT has introduced a full fledged private bilateral repurchase market.

Although in Taiwan, The Central Bank of China is not the competent authority for the bond market, it is nevertheless, very concerned about its sound development. Several measures have been taken to support this development such as the implementation of a primary dealer system in 2003, and accepting upon approval, all the asset backed securities (ABSs) held by local banks as eligible liquidity reserve assets to meet the liquidity requirements for the banking system.

In Fiji, the RBF continues to play an active role in supporting and developing bond markets. It has enhanced the market infrastructure by automating most of its registry processes. It also provides regular policy advice to the Government on public debt management. In Nepal, as there is no separation of monetary management from the debt management function, the central bank has an important role to play in developing the bond market and efforts have included strengthening the legal and regulatory framework and enhancing market transparency.

In Malaysia, Bank Negara Malaysia has taken an important role since the early stages of bond market development. In the initial stage, the Bank established the legal and regulatory framework, built market institutions and infrastructure. On the institutional front, the Bank was involved in the establishment of the National Mortgage Corporation, rating agencies and the Securities Commission. On infrastructure, the Bank improved the payment and settlement systems, and acts as central depository for all debt securities. The Bank also helped to establish

the benchmark yield curve, deepened and widened the market, the investor base, and assisted in creating new instruments.

In Sri Lanka, the central bank has been playing an active role since 1977 when debt management as well as monetary management strategies have been designed on market based principles. The Bank is directly involved as debt manager to develop bond market infrastructures, include the establishment of a primary dealer system, development of primary and secondary markets, computerisation of debt market structure and introduction of a new payment and settlement system. The Bank is also involved in the awareness campaign to popularise bonds.

In Indonesia, the central bank together with the Ministry of Finance in recent years, have taken several measures to develop the bond market such as implementing the Bank Indonesia Scripless Securities Settlement System in 2004, facilitating the establishment of an inter dealer market for government bonds, and establishing the debt management unit called the center government bond management at the Ministry of Finance.

7. Conclusion

The Asian financial crisis in 1997 has highlighted the problems of excessive reliance on volatile short-term financing and overdependence on funding from commercial banks that could lead to the exchange rate and maturity risks. It underscores the importance of broadening capital market, in particular to find an alternative avenue of financing such as domestic bond. Therefore, in post-crisis Asia, development of domestic bond markets is increasingly seen as one of the key requirements to strengthen the financial sectors and to reduce their vulnerabilities to future financial crises. This led to many emerging and developing economies to focus their efforts on developing bond markets.

Moreover, developing the bond market is believed to be important in utilising the region's large pool of saving and capital reserves, given the high saving rates in many countries and the accumulation of foreign exchange reserves since the crisis. So far, the region's huge foreign reserves, for the most part, had been invested in financial instruments issued by other regions, due to a limited choice of alternative investment vehicles in the region. It is observed that this capital has flowed back to the region in the form of short-term portfolio investments, which could threaten financial stability in the region.

The domestic bond market plays an important role in an economy as a mature and well functioning market will help foster financial stability, reduce inflationary funding, improve financial stability, and strengthen transmission and implementation of monetary policy. Development of a liquid bond market would also create a more complete financial market, providing access to long-term capital at lower cost, strengthen corporate transparency and market discipline, and provide key information on state of the economy.

In the post-crisis period, bond markets in many countries, including those under study, have expanded considerably. Between 1997 and 2003, they have more than doubled in size with Indonesia registering the fastest growth, from only USD 0.5billion in 1997 to USD 51.5billion in 2003 while in Thailand, it grew more than three times in size since 1997. The bond market size in Taiwan, Malaysia, and Korea more than doubled during the same period. The combined size of bond markets in the 10 economies stood at USD 851 billion by the end of 2003 with the bond market in Korea making up more than half of the region's total.

However, there is a great diversity in terms of the stage of bond market development across countries. Malaysia, Korea, Taiwan, and Thailand have more advanced bond markets followed by Indonesia, Philippines, Sri Lanka, and Fiji. Nepal and Brunei are at different stages and still developing. As proportion of the size of the respective economy, Malaysia has the largest bond market (83% of GDP), while Nepal has the smallest (28% of GDP). Korea has the second largest bond market (80% of GDP), followed by Sri Lanka (58% of GDP), Fiji (49% of GDP), and Taiwan (45% of GDP). The bulk of the growth in Malaysia is contributed by the corporate bond market, while the asset backed securities market has made a major contribution to the development of domestic bond market in Korea.

Except in Fiji, the size of bond markets is smaller compared with bank loans in the countries under survey. As a proportion to their GDP, the combined bond market for the countries under study at the end of 2003 was 57% of GDP, as against total bank loans which was 91% of GDP, and equities, which was 68% of GDP. Malaysia and Taiwan are the only countries the total markets of which equity far exceeded their GDP (163% of GDP and 143% of GDP respectively), and far above the average of the region. Moreover, Malaysia and Taiwan also have the largest markets for bank loans, which were 121% of GDP and 143% of GDP respectively.

Bond markets in this region, however, remain small compared to those of developed countries. The combined bond market size for these 10 economies was 57% of GDP at the end of 2003, lagging behind those in the United States or Japan, the total outstanding domestic bonds of which stood at 160% and 177% of GDP respectively. This indicates that bond markets in the region have a promising future and there is plenty of room for further expansion. As mentioned earlier, the potential for further development of the bonds in the region is very substantial given their high savings rate and large accumulation of foreign reserves.

Although specific reasons may vary in individual countries, many countries under study have common problems in the efforts to develop their bond markets. The major factors are underdeveloped secondary market, shallow bond market and limited supply of bond issues. In countries with less developed bond market, the lack of a good database is one of the major impediments. Meanwhile, for countries in which bond markets are more developed, they face problems of tax treatment, implementation of short-selling for bonds, absence of competent dealers in the sense of market makers, and absence of bid-ask price quotations. Other major factors include the lack of financial infrastructures such as auctions schedules, hedging instruments and derivative markets.

Hindrances to the development of the secondary market vary from the buy and hold strategies of the major investors who dominate the markets to lack of market making mechanism. In Indonesia, Malaysia and Fiji, the tendency of most financial institutions to hold their bonds to maturity has hindered the development of the secondary market. Other reasons for the underdeveloped secondary market in Indonesia are the absence of readily available information on bond prices and trading activity and listless market making activities and the not so transparent brokering in Korea.

Many countries under study have introduced a comprehensive set of measures and policy initiatives, at national and regional levels, to facilitate the development of domestic bond markets. These measures include strengthening the legal and regulatory framework, improving the bond issuing process and pricing mechanism, promoting demand for local currency bonds, improving market infrastructure, and promoting regional cooperation in developing bond markets. In particular, they also have a common agenda to widen and diversify their investor base.

Since the stages of development of bond markets vary hugely, specific measures taken in individual country also vary greatly. In countries with less

developed bond market, further steps include improving market infrastructure such as enhancing database management and switching to book entry form. Others have plans to develop a benchmark bond to create greater liquidity, broaden investor base, and increase the liquidity of bonds in the secondary market. In countries with more developed bond markets, steps are also taken to broaden the variety of instruments.

Based on the experience of countries where domestic bond markets are developed and emerging markets that have successfully developed bond markets, the ADB offers additional measures that could help increase liquidity: (i) introducing a When-Issued (WI) market; (ii) introducing Separate Trading of Registered Interest and Principal of Securities (STRIPS); and (iii) developing fixed income derivatives markets.

Central banks have multiple interests in developing bond markets. At a fundamental level, the government bond markets provide the fiscal authority with a market-based non-inflationary source of deficit financing, thereby reducing the government's need to rely on the central bank. Domestic bond markets can also strengthen the transmission and implementation of monetary policy. Many central banks rely on the government bond market to conduct monetary policy. The term structure of interest rates derived from a well functioning bond market would be an important indicator of how well and rapid the short-term policy interest rates would be transmitted to the long-term rates.

Some countries under study have been using government bonds as a choice monetary policy instrument, in line with the growing tendency to implement monetary policy through open market operations. For countries with developed government bond markets, the purchase and sale of government securities in the secondary market by the central bank and an active repurchase agreement market are common methods to influence the monetary base. In economies without a developed domestic bond market, the central bank often resorts to using direct credit controls as well as issuing its own instruments.

Over the years, many central banks have made different and important contributions to the development of efficient bond markets. One of the most important contribution is to achieve and maintain low and stable rates of inflation, which is a necessary condition for developing sound bond markets. Other measures adopted by central banks include the active use of bonds, in particular government securities, as monetary policy instruments; acting as fiscal agent of the government, developing efficient and reliable clearing and settlement systems, adjusting legal

and regulatory framework, promoting market transparency, and promoting the development of derivatives markets.

7.1 Prospects

Developing robust bond markets at the country and regional level should be of great interest to the central bankers. The central bank has special interest in developing the domestic bond market as this may help reduce the government's need to rely on the central bank for direct financing, as well as strengthen the transmission and implementation of monetary policy. In this respect, there are some policies that central banks (or governments) can implement to promote liquidity in domestic bond markets and to improve the depth of secondary markets, in particular in government bond markets.

All countries have made notable progress in developing their bond markets. However, given that these countries are at different stages of development of their bond markets, the measures that need to be taken will vary. In this respect, there are still many issues which countries could learn from the experiences of others.

Given the progress made to date and strong political will of countries under study to develop their bond markets, future prospects for further bond market development in the SEACEN countries are excellent. In light of this, the option to establish a SEACEN Bond Fund should be open as a means to foster regional financial cooperation among countries in the region.

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PART II: COUNTRY CHAPTERS

Chapter 2
The Development of Capital Markets in Brunei Darussalam

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1. Introduction

Brunei Darussalam is situated at the northwest of the island of Borneo with total land area of 5,765 sq km and a coastline of about 161km along the South China Sea. The total population of the country recorded at the end of 2003 was 348,400. The economy of Brunei Darussalam is dominated by the oil and gas industries which composed about 90% of the country total exports. As a result of the world oil price shocks of early 1970s and 1980s, Brunei Darussalam received windfall of revenue from its oil export. Part of this revenue was dedicated for the development of the country including building infrastructure and establishing an extensive welfare system for the citizens. For this to happen, the government plays a huge role whereby its activities have considerable impact on the domestic economy.

In the last decade, the government has announced its policy towards economic diversification in view of the possible exhaustion of Brunei's oil and gas resources in the future. The policy strived to expand the non-oil sector with increasing participation of the private sector and lesser role of the public sector in shaping the economy. The non-oil sectors of the economy including manufacturing, services and trade, tourism and high technology. The financial sector is still relatively small contributing around 6 percent of the nominal GDP which stood at B$8.2 billion in 2003. Like many Asian economies, the financial intermediation in Brunei Darussalam is dominated by the banking sector.

Many lessons have been learnt since the Asian Financial Crisis and one of the main weaknesses identified was the excessive reliance on bank-intermediated financing and difficulties in borrowing longer term, especially in local currency. In some countries, the role of financial intermediation is somewhat dwarfed by

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the financial crisis and the problems of asymmetric information had led to greater public mistrust of financial institutions where major lending financial institutions have collapsed if not plagued by high non-performing loans.

Since the financial crisis, accelerated development of domestic bond markets is seen in the Asian region in order to reduce reliance on bank lending and efforts are also channelled to strengthen the financial sectors by the authorities. It is observed that the development of a deep and broad domestic bond market complements the existing banking system for efficient mobilisation and allocation financial resources rather than substituting each other.

Currently, there is no bond market in Brunei Darussalam. The objective of this paper is to study the prospect and the challenges of developing the bond market in Brunei Darussalam. It is noted that the macroeconomic and structural policies, accounting practices and standards, regulatory framework, market infrastructure such as payment and settlement system, market participants, corporate governance, taxes and fees, human capital, and regional integration are all areas that will play important roles in the successful development of the bond market in an economy. It is observed that one of the critical success factors for bond market development in an economy is to understand the links between the various areas stated earlier and the need for an overall strategy as well as plans for individual area.

2. Bond Market Development and Prospect

There is currently no bond market and no stock exchange in Brunei Darussalam. With such a small market economy and population, transition from a heavily bank-dependent to a capital market-dependent will take quite some time where the banks will be seen to play an active role during the stages of development of the bond market.

In 2004, there were about 101 financial institutions including banks, finance companies, trust fund, conventional insurance companies, Islamic insurance (Takaful) companies, remittance companies and money changers. There are 9 banks in Brunei Darussalam including 3 local banks. Brunei Darussalam's financial sector is very liberal with no restrictions in official credit and interest rate. There are also no foreign exchange and capital controls.

There is no active interbank market and most excess funds in the banking system are deposited in financial institutions in Singapore. Brunei Dollar is pegged to Singapore Dollar and since the interest rates are close between the two countries, banks and institutions are not exposed to foreign exchange and interest rate risks by placing their funds in Singapore. The only costs involved are the transaction costs and any charges on placements or taxes levied on the income derived from the placement in Singapore.

The capital market development with regards to equity market and bond market is quite limited in Brunei Darussalam. The only publicly sold shares were that of the Islamic Bank of Brunei Berhad. There is a local insurance company that issues shares but these are limited to their shareholders. Since there is no stock exchange, the prices of these shares are determined by the demand and supply of the small number of investors themselves and are not actively traded.

Although 95% of the total enterprises in Brunei Darussalam are classified as Small and Medium Enterprises (SMEs), it is observed that some larger SMEs and corporations have potential to issue their own shares to be traded in the stock exchange in the future, as one of the means to raise finance by tapping into the securities market. Local securities will be alternative investment opportunities to investors who currently have limited choices given the small range of products offered by the banking sector. This may be attractive to investors since the stocks will be in local currency and will not be subject to foreign exchange risks compared to investment in overseas stock markets. Investing in these companies also allows more local participation in the growth of SMEs.

As for bonds, the government of Brunei Darussalam has not yet issued any securities. However, the government will continue to explore possibilities of issuing securities to jumpstart the development of the bond market and meet the following objectives:

i. To provide liquid investment opportunities with little or no risk of default to both individual and institutional investors;
ii. To serve as benchmarks for the corporations and institutions to raise short, medium and long-term funds by stimulating the growth of domestic capital markets;
iii. To further develop the financial sector (saving institutions, pension funds, fund management industry, insurance and Takaful industry);

iv. To attract the inflow of Brunei Dollars from deposits held abroad by Brunei-based financial institutions and hence retain the liquidity within Brunei Darussalam and develop the interbank market;
v. To provide an effective mechanism to implement Government's monetary policies when necessary.

There was a first international financing by asset lease-back method done in 2002 when Brunei Gas Carriers Sdn. Bhd. (BGC) purchased a large LNG (liquefied natural gas) vessel as part of its expansion plan. The financing of the vessel was secured from a syndicate of banks comprising of several international financial institutions with a foreign bank branch based in Brunei Darussalam as the lead arranger. A special purpose company (SPC) was set up to undertake the sale from the lead arranger and then leased the asset back to BGC. This investment, amongst others, is a large project financing facility arranged under the Brunei International Financial Centre (BIFC), Ministry of Finance involving banks from abroad. Characteristics of this project financing are similar to raising capital with issuance of bonds except that the syndicated loan done is without any issuance of security papers other than legal documents.

By observation, there is no lack in the potential supply for domestic bond market as there are many other potential issuers in Brunei Darussalam. As part of the Government's efforts to diversify from its oil-based economy, many initiatives are undertaken. There are mega projects under the Brunei Economic Development Board (BEDB) such as the development of downstream and manufacturing industries, power supply and infrastructure at major industrial sites at Sungai Liang and Belait. There are plans to develop Pulau Muara Besar into container handling port hub to meet the sophisticated needs of the shipping industry and the establishment of aluminium smelting and fertilizer plants. These long-term projects will require major financing. Therefore, in addition to conventional bank financing, another funding avenue would be through the bond market.

3. Bond Market and Central Bank

Brunei Darussalam does not have a central bank. All tasks related to monetary issues are carried out by selected departments within the Government, under the jurisdiction of the Ministry of Finance (MOF) and the Prime Minister's Office as follows:

- Issuance of currency – Brunei Currency and Monetary Board (BCMB); Monetary and exchange rate policy – (BCMB);

- Reserve management – BCMB and Brunei Investment Agency;
- Financial sector supervision – Financial Institution Division (FID) and Brunei International Financial Centre (BIFC), MOF;
- Statistics – Economic Planning and Development Department (EPDD), Prime Minister's Office and MOF;
- Research – BCMB; Research and International Division, MOF; and EPDD, Prime Minister's Office;
- Lender-of-last resort – This function has not been developed. However, BCMB may provide short-term standing facilities to the financial institutions against approved collateral according to the Currency and Monetary Order, 2004.

Brunei Darussalam has a currency board system, where Brunei dollar is at one to one parity with the Singapore dollar. To date, liquidity requirement and open market operations have not been implemented. There is a statutory reserve requirement (minimum cash balance) that is imposed on banks and finance companies. They are required to maintain a certain percentage of the eligible liabilities as a prudential requirement, which mainly consist of deposits.

A currency board arrangement can assume traditional monetary function such as lender-of-last-resort (LOLR) support and carry out open market operations (OMO), within clearly specified bounds provided it has sufficient credibility and holds adequate excess reserves. LOLR support may be needed to contain financial sector problems at an early stage and prevent contagion risks. The existence of such support facility can enhance confidence in the domestic financial system.

The monetary authority in Brunei Darussalam is BCMB (formerly known as Brunei Currency Board), which is a statutory body under the purview of Ministry of Finance. One of BCMB's key functions is to preserve the external value of the currency and is the sole authority responsible for the issue and management of currency in the circulation. Under the current legislation, it is required that at least 70% of the currency in circulation must be backed by external assets, of which at least 30% must be liquid.

In practice, most operating currency boards deviate from the "pure" version, so with the intention of the authorities to widen the scope of its currency board's arrangement, the evolving role of BCMB should be viewed as a natural complement to economic diversification and financial market development in Brunei Darussalam.

The Brunei Currency and Monetary Order which took effect on 1 February 2004 entails the intention of the government to develop the domestic money and capital market in order to enhance financial intermediation and to enable the conduct of monetary management.

The Order allows BCMB to purchase, sell, discount and re-discount Treasury Bills and short-term government securities payable in Brunei dollar forming part of a public issue; purchase and sell publicly issued securities, of or guaranteed by, the government payable in Brunei dollar and maturing not more than 30 years; and act generally as agent for the government on such condition as maybe agreed between BCMB and the government, where BCMB shall act within the provisions of this order and within its role as a monetary authority.

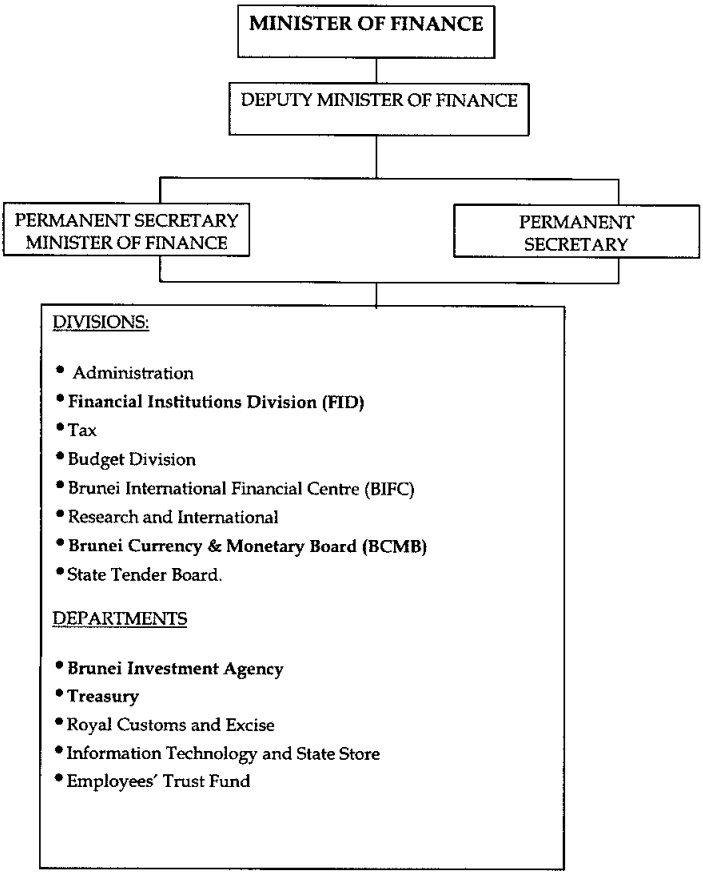
Another important provision provided in the Order is the granting of standing facilities to the financial institutions for periods not exceeding 3 months against Treasury Bills and short-term Government securities, or against other collateral which is deemed appropriate by BCMB.

BCMB can play a role to support government securities market through OMO which not only can facilitate settlement but also smooth out daily liquidity variations. In addition, appropriate OMO can prevent severe liquidity squeeze during systemic crisis.

One of the objectives of the authorities is to widen the scope of Brunei Darussalam's currency board arrangement where BCMB's role will be further evolved and expanded but measures will be carefully implemented to continue safeguard price stability and confidence in the monetary system.

At the moment, other departments have the potential to carry out several functions to facilitate the development of bond market. Brunei International Financial Centre (BIFC) is multi-disciplinary and carries out the function of supervising banking, insurance, corporate, trust and securities activities under its jurisdiction. BIFC works closely with the Financial Institutions Division (FID) who is the main regulator and supervisor of the domestic financial institutions. In this regard, both BIFC and FID may carry the role as a "securities commission" in the bond market.

Box 2.1:- Current Organisational Structure of Ministry of Finance, Brunei Darussalam



4. Challenges and Strategies to Develop Bond Market

Some of the prerequisites for the capital market development, particularly in the bond markets (both government and corporate) include the following:

(a) Continuous economic growth which in turn develops the size of investors and issuers;
(b) Adequate regulatory framework and legislations which govern the capital market;
(c) Existence of market-makers;
(d) Sound banking system;
(e) Favourable tax environment;
(f) Reliable and efficient market infrastructures including trading, clearing, settlement and central depository systems;
(g) Good corporate governance including adoption of internationally accepted accounting practices and standards;
(h) Reliable credit rating agencies and;
(i) Deregulation of capital and foreign exchange controls.

While a number of challenges are common to most countries during the process of developing their capital markets, there are a few issues that are specific to Brunei Darussalam. Amongst all the ASEAN countries, Brunei Darussalam has the smallest domestic market which could hinder further growth of the capital market especially on the demand side. One of the strategies to address this issue is to attract foreign investors to invest in the domestic capital market.

Due to the small population size, there is a general lack of human capital and expertise in the development of capital market. Technical assistance can be sought from foreign experts which will eventually lead to the transfer of skills and knowledge to the locals.

Current regulatory framework is incomplete for the development of bond market in Brunei Darussalam. For example, there is no specific legislation related to issuance of bonds. However, some efforts have been made to stimulate the development of capital market such as the Brunei Currency and Monetary Order, 2004 and the Securities Order, 2001.

In terms of market infrastructure, with the small market and population size, the main challenge will be the establishment of an efficient payment and settlement system without the economies of scale. Due to operational simplicity, Brunei

Darussalam does not have sophisticated markets involving the settlement of shares (stock market) and foreign exchange funds (money market). However the fundamental infrastructure that provides and supports the basic daily transactions efficiently and effectively is in place such as the preferred international transfer method via SWIFT. The existing cheque clearing system is operated by the Brunei Association of Banks (BAB) where all nine cheque issuing member banks participate. There is no large payment and settlement system in place. A tailor-made solution may be costly for Brunei Darussalam. Expertise of the banks with established clearing and settlement network may be required to tackle this issue. Another solution is through the establishment of a central depository for the securities.

The local investors in Brunei Darussalam may not be very familiar with some of the capital market instruments. Creating awareness and educating the public in investment especially in the bond market are therefore important strategies in the developing the demand side of the capital market. The outreach could even be started from schools to enable the young people understand the bond investment concept.

An active money market is also a prerequisite for the development of capital markets as it supports the bond market by increasing the liquidity of securities by making it less risky and cheaper for financial institutions to take up government securities for on-sale to investors. It is also easier for financial institutions to cover their short-term liquidity needs. There is still room for increasing the activity in the money market in Brunei Darussalam and this can certainly go hand in hand with the overall development of the bond market.

As there are limited domestic investment opportunities, banks tend to invest their excess liquidity abroad. The development of the bond market in Brunei Darussalam will retain some of the liquidity in Brunei Darussalam to promote financial deepening.

The Government, being the driver of Brunei Darussalam's economy, will play a pivotal role in the development of bond market and at the same time, the role of private sector as market participants is also crucial. Coordinated discussions among government authorities, state-owned enterprises (SOEs) and private sectors are important in the development. It is essential to have master plans for both the financial sector and capital market to give clear direction towards achieving the objectives.

5. Conclusion

Despite some constraints and challenges in developing the capital market in Brunei Darussalam, some of the basic prerequisites are already in place. The existing institutional structure and legislation can be modified to support the development of bond market.

To move ahead, the Government will have to take the lead in laying out the master plans and jumpstart initiatives such as the issuance of government securities to establish the benchmark yield curve for the bond markets and to provide for alternative safe and liquid investments for all investors. By having the domestic securities market in place, excess savings can be absorbed rather than invested abroad by the creation of more investment opportunities for domestic savers, including institutional investors such as the Employees' Trust Fund.

Although it is the authorities' intention to broaden the scope of BCMB as a monetary authority, it is noted that BCMB must strengthen its technical capacity in order to undertake monetary analysis and to perform limited monetary operations, all within the present currency board arrangement. The current framework of monetary stability has been a landmark in the economy and it is important to safeguard price stability and confidence in the monetary system. It is hoped that Brunei Darussalam, through its membership in SEACEN, could learn and draw lessons from the neighbouring countries' experiences in developing the domestic bond market.

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Chapter 3
Development of Domestic Bond Market and Its Implications for the Central Bank: Fiji

by
Sangita Prasad [1]

1. Overview

Fiji is a small open economy with an estimated population of 0.8 million and a per capita GDP of around F$4,500. The economy has grown, on average, by 3.3 percent over the last five years. In 2004, the economy is expected to grow by 3.8 percent, slightly higher than the 3 percent growth estimated for 2003. Fiji's financial system has continued to expand over the years from its infancy stages in the early 1980s when markets were underdeveloped and highly regulated to a reasonably well-developed and deregulated financial system.

The Fiji bond market has also grown significantly over the past decades, and has been a major source of financing for the public sector. Borrowers in the private sector continue to access long-term finance either directly through banks or through raising funds in the stock market. The Fiji National Provident Fund (FNPF) is the major investor accounting for three-quarters of the total bonds outstanding. At the end of 2004, total outstanding bonds stood at F$2,306.4 million (US$1,402.1 million), equivalent to 50.7 percent of GDP. Interests rates on bonds have generally tracked downwards, reaching historical lows in mid 2004, and currently has rebounded. Activity in the secondary bond market has been relatively thin.

Although Fiji's bond market is large in absolute value, it is still at a nascent stage of development. There are some inherent constraints in the development of the bond market in Fiji and the relevant authorities are examining options to address the issue of deepening and promoting liquidity in the domestic market.

2. Recent Developments of Domestic Bond Market

Fiji's bond market has grown significantly in size over the years. However, it is still at an early stage of development with activity concentrated in the primary

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market and comparatively little activity in the secondary market. Improvements to the bond market have taken place within the context of financial sector reforms undertaken since the early 1980s and more recently, as a result of efforts to develop the capital markets as a whole. The initial focus was on strengthening the financial structure, promoting a competitive financial environment and introduction of new instruments. Some steps taken that had an impact on the bond market were the removal of interest rate ceilings, the relaxation of restrictions on capital flows and the establishment of a competitive tender system for issues of Treasury bills, promissory notes and bonds. In the bond market, changes that took place in the 1990s included the introduction of callable options on Government bonds, the dissemination of a yield curve and bond price list and the establishment of the Reserve Bank of Fiji's domestic bond portfolio.

A significant milestone was achieved during this period, in the enactment of legislation governing the regulation and supervision of the capital markets in 1996, and the establishment of the Capital Markets Development Authority (CMDA) in 1998. Although the CMDA has to date concentrated primarily on developing the equities market and other segments of the capital market, it has also promoted awareness of the bond market.

In 2001, there was an improvement to the basic infrastructure of the bond market where a portion of the registry processes was automated. And in 2002, Fiji's first corporate bond was issued. Current initiatives are focusing on increasing awareness on bonds and exploring ways to create a deeper and more liquid bond market.

2.1 Types of Debt Instruments

In Fiji, both short-term and long-term securities of Government and statutory corporation are issued.

2.1.1 Short-term Securities

Short- term securities are issued in the money market. The money market has developed over the years and has been used by Government and statutory corporations to raise Treasury Bills and Promissory Notes respectively. In addition, the RBF issues its own Notes for the conduct of open market operations. FNPF is the largest investor in the money market, overtaking commercial banks, which were the major investors in the market a decade ago.

Table 3.1: Short-Term Securities (F$M)

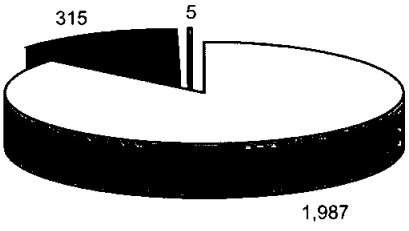
	1996	2000	2004
Treasury Bills Outstanding	20.5	73.7	128.3
Promissory Notes Outstanding	24.1	17.9	32.8
Reserve Bank of Fiji Notes Outstanding	257.5	416.3	255.1

Source: Reserve Bank of Fiji

2.1.2 Long-term Securities

Long-term securities issued can be divided into three categories: Government, statutory corporation and corporate bonds. All of the bonds are fixed interest rate bonds with semi-annual coupon payments. The bond market is dominated by Government bonds, which currently account for over four-fifths of total bonds outstanding (Figure 3.1).

Figure 3.1: Total Outstanding Amount of Bonds by Type as of the end of 2004, (F$M)



Note:The above data excludes short-term debt securities
Source: Reserve Bank of Fiji

Total:F$2,306.4 million

(i) Government Bonds

Prior to the 1980s, Government's borrowing requirements were funded largely through private placements of debt with the Fiji National Provident Fund known as *Fiji Government Inscribed Stock*. These debt instruments were non-marketable and had all matured by the end of 2002.

The Government bonds, known as *Fiji Government Stocks,* are marketable bonds issued by the Ministry of Finance with the prime objective of financing approved expenditures of the Government. The first issue was made in 1951. These bonds have a callable option and since 1998 have been issued with standard maturities of 3 years, 5 years, 7 years, 10 years and 15 years. The bonds are sold on a tender basis by means of competitive and non-competitive bidding.

As at 2004, there were 548 Government bonds outstanding in the market with a total face value of a little over F$1.9 billion.

(ii) Statutory Corporations Bonds

Statutory corporation bonds have similar features to those issued by Government. Although the Government guarantees these bonds, they attract a slight premium on the Government bond interest rates. In the early 1990s, statutory corporations bond issuances rose significantly as some of the statutory corporations brought their foreign loans onshore. However, since then, statutory corporations debt securities outstanding has generally declined. In 2004, statutory corporation bonds constituted around F$314.9 million or 14 percent of the total domestic bonds outstanding.

(iii) Corporate Bonds

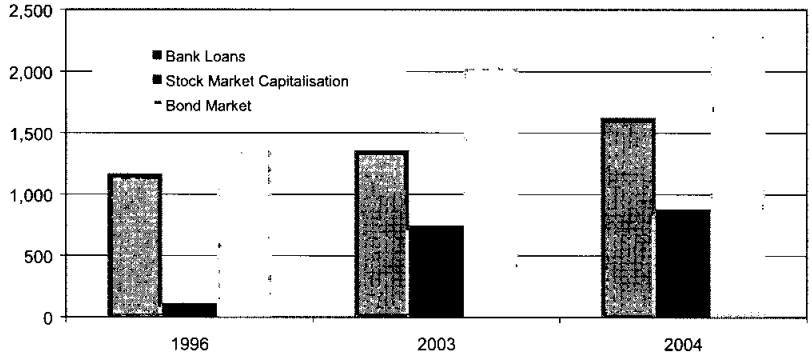
Fiji's corporate bond market is underdeveloped. In 2002, Fiji issued its first mortgage-backed corporate bond of F$5 million with 5- and 7- year maturities. This has been the only one issued so far in the market.

2.2 Size and Structure

2.2.1 Size of the Market

Fiji's bond market is at a nascent stage of development and lags substantially behind other emerging market countries in terms of market infrastructure, depth of market, efficiency and transparency. Prior to the early 1990s, the banking sector loans and advances was the largest segment of Fiji's financial market. However, over time the bond market activity has expanded following Government's rising budgetary needs. Currently, bond market is a major source of financing for the public sector while borrowers in the private sector access long-term finance either directly through banks or through raising funds in the stock market (Figure 3.2).

Figure 3.2: Outstanding Bank Loans, Stock Market Capitalisation and Bonds in Fiji, (F$M)



Source: Reserve Bank of Fiji & South Pacific Stock Exchange

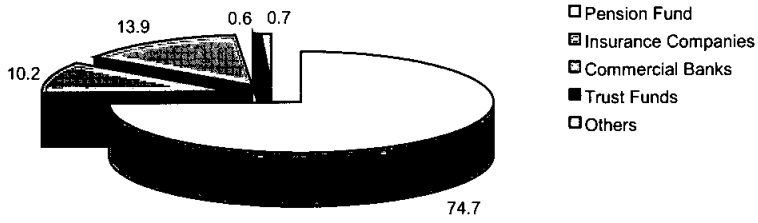
2.2.2 Issuers Characteristics

The main issuers of debt instruments are the Fiji Government and statutory corporations. Only one company has issued a corporate bond in 2002.

2.2.3 Investors Characteristics

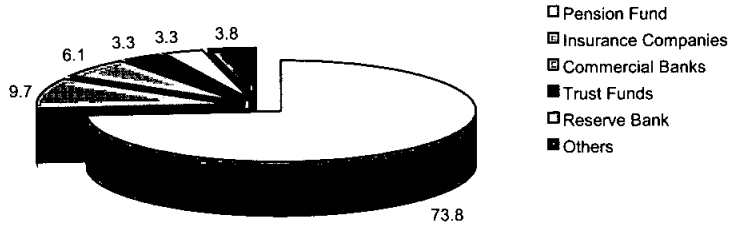
The composition of investors in the bond market for 1996 and 2004 is shown in Figure 3.3a & b below. Fiji's pension fund, FNPF, was the largest bond holder followed by insurance companies, commercial banks, trust funds and the RBF. Over the years, a notable decline in the share of bond holding by commercial banks has been recorded. The share of bond holdings of FNPF and insurance companies has contracted slightly. However, bond holdings of RBF and Trust Funds have increased.

Figure 3.3a: Major Bond Investors as of the end of 1996, (Percent)



Source: Reserve Bank of Fiji

Figure 3.3b: Major Bond Investors as of the end of 2004, (Percent)

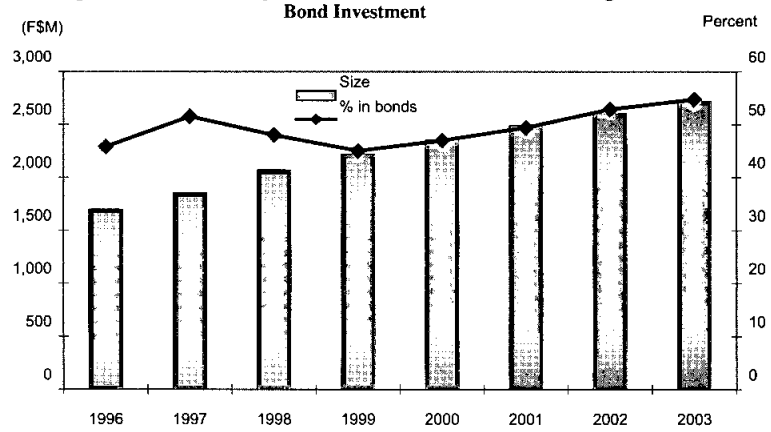


Source: Reserve Bank of Fiji

(i) Pension Fund

Fiji has a single pension fund, the FNPF, established under the FNPF Act of 1966. Contributions to the FNPF are mandatory for all employees. The FNPF is the dominant investor in the debt market and its investment strategy is generally to 'buy-and-hold' debt securities. Its preference is to invest in long-term securities that provide a steady flow of income to match its long-term liabilities. Since 1996, the FNPF has expanded significantly by around 60 percent to F$2.7 billion (40 percent of total financial system) (Figure 3.4), surpassing the asset size of all commercial banks in Fiji. In 2004, the FNPF held F$1,703.2 million or 73 percent of the total outstanding in bonds.

Figure 3.4: Growth of Fiji National Provident Fund and Percentage of Total Bond Investment



Source: Reserve Bank of Fiji

(ii) Insurance Companies

The Fiji insurance industry is governed by the Fiji Insurance Act 1998[2] and supported by the Insurance Regulations 1998. Overall the ratio of the insurance fund assets to total financial system assets remained relatively small at 9.7 percent (13.4 percent of GDP). The industry[3] recorded growth of close to 12 percent in 2003 in line with the strengthening domestic economy. Traditionally, life insurance companies in Fiji invest in longer-term debt securities (between 7-15 year maturities) to match the duration of their liabilities. Insurance companies predominantly buy and hold securities till maturity and have invested over one third of their assets in bonds. The insurance companies are the second largest investors of long-term debt securities, holding around F$224 million (10 percent) in 2004.

(iii) Commercial Banks

There are five commercial banks in Fiji with total assets comprising around 38 percent of the financial system. As at December 2003, the banking industry recorded a capital adequacy ratio of 12.7 percent well above the minimum

2. Both of which came into effect on 1 January 1999. The amendment to the Insurance Act in 2003 included the supervision of the FNPF by the RBF.

3. In 2003, there were 2 life insurance and 8 general insurance companies.

requirement of 8 percent for banks. Traditional lending activity has grown, generally in line with improving domestic economic conditions. The weighted average lending rate of commercial banks was 7.03 percent at the end of December 2004; the lowest since interest rates were deregulated in the 1980s.

Prior to 2001, commercial banks were the second largest investors in the bond market. Following the political instability in 2000, some commercial banks reduced their exposure to Government bonds and this resulted in a gradual decline in their market share of long-term securities. On the whole, commercial banks generally invest in 3-year and 5-year bond maturities. At the end of 2004, the commercial banks held F$141.3 million (6 percent) of total outstanding domestic bonds.

(iv) Trust Funds

Total investment by trust funds in the bond market was around F$76.2 million or 3 percent at the end of 2004. The role of trust funds in Fiji's financial system is in some way similar to that of mutual funds in other countries. The funds include six-licensed unit trusts whose funds have grown by 24 percent from F$92 million in 2002 to over F$114 million in 2003.

(v) Reserve Bank of Fiji (RBF)

The RBF holds Government and Government guaranteed bonds, which are purchased in the secondary market. The RBF acquires bonds from the secondary market to build the RBF domestic bond portfolio. The RBF's domestic bond portfolio was set up in 1999 with a long-term objective to conduct market operations. The RBF's current bond market share stands at 3 percent of the total debt outstanding.

(vi) Others

This category constitutes non-bank financial institutions, licensed financial institutions, companies and retail investors. Retail investors comprise of a small proportion of this total.

2.3 Maturity Structure

Since 1998, the Fiji Government began issuing bonds with standard maturities of Fiji Government Stock including 3, 5, 7, 10 and 15 years. In view of the

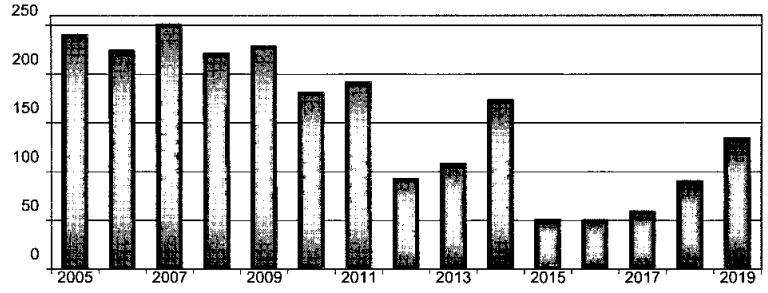
skewness in maturity structure of bonds in the near term (i.e. a large volume of bonds was redeeming in 3-5 years (Table 3.2 & Figure 3.5) and low interest rates prevailing in the market), the Government decided to accept more long-term maturities. For statutory corporations, 75 percent of the total bonds outstanding are concentrated between the maturities of 1 to 5 years. With low interest rates prevailing in the bond market, some statutory corporations are exercising call options to refinance their high coupon bonds at current low market rates.

Table 3.2: Distribution of Outstanding Domestic Bonds[1] by Maturity Structure (Percent)

	1996	2003	2004
1-3 years	33	33	31
4 -5 years	17	21	20
6 - 7 years	13	18	16
8 -10 years	16	14	16
11 - 15 years	21	14	17
Total	100	100	100

Note:
[1] Excludes FNPF Inscribed Stock.
Source: Reserve Bank of Fiji

Figure 3.5: Composition of Outstanding Domestic Bond by Maturity Structure as of the end of 2004, (F$M)



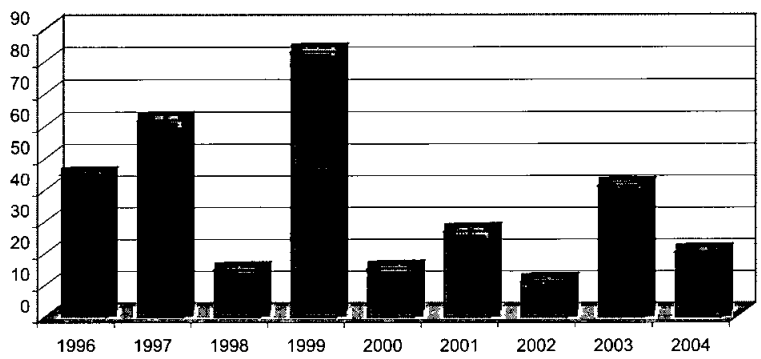
2.4 Primary Market

Bonds are available to the general public on a tender basis. Prospectus and tender forms are sent to investors and are also readily available at the RBF. Information on Government's financing program for the calendar year is available on Government's website. However, the exact timing of the issues is not known until a few weeks prior to the issuance. In addition, a schedule of public sector borrowing requirements including government and statutory corporation financing programs are compiled by the RBF and available to the investors. Most primary issues are oversubscribed. Although the primary bond market in Fiji is reasonably well utilised by the public sector (Central Government and statutory corporation) for its financing needs, other borrowers such as local government and private sector have yet to tap this type of funding. There are no primary dealers in Fiji.

2.5 Secondary Market

Activity in the secondary market for bonds is minimal (Figure 3.6). Bonds may be traded on the South Pacific Stock Exchange (SPSE) and over the counter (OTC), however, the latter is by far the more popular means of trading. Since 1996, the secondary market turnover ratio for bonds has averaged around 2.2 percent. Trading was most active in 1999 when FNPF liquidated some of its bond holdings in the secondary market to facilitate its foreign investment. During the past 5 years, secondary bond trading has been low. The major bondholders are reluctant to sell, as there are limited reinvestment opportunities in the market.

Figure 3.6: Secondary Market Turnover (F$M)



Source: Reserve Bank of Fiji

3. Bond Market Infrastructure

3.1 Regulatory Framework

Fiji's bond market operates a well-regulated and relatively strong financial system. The RBF supervises financial institutions in Fiji. The supervision of licensed financial institutions is driven by various legislations and standards. These legislation include, the RBF Act (1983), Banking Act (1995), Insurance Act (1997) Exchange Control Act (1985), Proceeds of Crime Act (1997) and Mutual Assistance in Criminal Matters Act (1997).

Fiji's capital markets are regulated by the Capital Markets Development Authority (CMDA). The Authority was established under the CMDA Act, 1996 and became fully operational in January 1998. Its overall responsibilities are to regulate the capital markets and enforce the legal requirements of the CMDA Act and its accompanying Regulations and Rules. These Regulation aim to ensure that the markets are fair and efficient and that investor confidence is maintained. As part of the regulatory functions, the Authority licenses intermediaries, conducts routine and specialised inspections of the books and records of licensees to ensure compliance. The Authority carries out market surveillance and approves and supervises the operations of the stock exchange in Fiji. Apart from regulation, CMDA has the objective of developing capital markets.

The South Pacific Stock Exchange (SPSE) was established in 1979 (then known as Suva Stock Exchange) and its primary function is to facilitate a company raising capital through the issue of new shares to the public. The secondary function of the Exchange is to provide a regulated market for the trading of existing stocks and bonds. The SPSE Central Share Registry Limited (CSRL), a subsidiary of SPSE, was established in 2002 to efficiently manage records of all listed companies' share registers.

3.2 Settlement & Clearing System

In 2001, the RBF with the assistance of the International Monetary Fund, successfully completed and launched its Book Entry System (BES). This system handles a majority of registry processes automatically, including auctioning process, redemption, interest payments and secondary market transfer registration, thus enhancing the registry function of the Reserve Bank. The BES system records

all outstanding debt securities including Fiji Government Stock, Treasury Bills, RBF Notes and Statutory bodies bonds. The BES has improved the overall efficiency of the tendering process by minimising errors and eliminating potential delays that may arise from manual handling of tender procedures. Certificates are issued to investors by the RBF for the securities offered in the market. Fiji does not have a script less trading system.

The commercial banks play an active role in the delivery of deposit and withdrawal facilities in Fiji. There is a range of delivery mechanisms ranging from the use of cheques to telephone and Internet banking. The banks operate a clearinghouse for cheque settlement system on a deferred net basis. All banks in Fiji have Magnetic Ink Character Recognition (MICR) cheques for their customers. Some banks have been carrying out voucher processing using MICR machines. There are no immediate plans for electronic bulk processing and file transfer within the next year. The RBF holds Exchange Settlement Accounts (ESA) for commercial banks, through which, it also conducts its open market operations. The RBF is working towards the implementation of a real time gross settlement (RTGS) system for large value transactions in Fiji.

3.3 The Role of Rating Agency

There is an absence of credit rating agencies in Fiji. Although, the RBF recognises the need for rating agencies, however, there is no immediate plans to set up one in Fiji.

3.4 Taxation

Interest income on bonds is subject to normal tax. There is no capital gains tax in Fiji.

4. Domestic Bond Market and Central Bank Policies

The RBF plays a crucial role in promoting the development and maintenance of efficient markets through the pursuit of sound monetary policies.

4.1 Fiscal and Monetary Policy Coordination

Fiscal and monetary policy coordination is formalised through the Macroeconomic Policy Committee (MPC) and the Debt and Cashflow Policy

Committee (DCPC). The MPC has twin objectives. Firstly, to prepare a set of projections on various macroeconomic indicators, which has implications on the budget, and secondly to give policy advice to the Minister for Finance. The Committee is spearheaded by the Governor of the RBF and members include senior officials from RBF and various ministries. The DCPC is chaired by the Deputy Secretary of Finance and Asset Division (Ministry of Finance) and members include senior officials from RBF, MOF and Fiji Islands Revenue and Customs Authority (FIRCA).

The Debt and Cashflow Management Unit (DCFMU) of the Ministry of Finance is responsible for Government's domestic and foreign debt management and for ensuring that Government's cash management is conducted efficiently.

The Reserve Bank is not required to provide financing to Government. However, according to section 49 (1) of the RBF Act, the RBF may grant temporary advances with a limit of $20 million to the Government. The RBF, under Section 50 of RBF Act, also buys government bonds in the secondary market to build the domestic bond portfolio.

4.2 Objective and Strategy for Monetary Policy

In Fiji, the RBF has adopted a market–based approach to monetary policy. Monetary policy is conducted to achieve the RBF's twin objectives of low inflation and an adequate level of foreign reserves. The RBF does not have a formal inflation target, however, it is generally comfortable with inflation rates of around 0-3 percent. Maintaining an adequate level of foreign reserves is also crucial for a small open economy like Fiji as it depends a lot on imports.

The monetary policy is formulated by the RBF and implemented using open market like operations in RBF securities to influence liquidity levels and to influence market interest rates. Monetary policy is transmitted to the Bank's final objective – inflation – through commercial interest rates and through the real economy. An empirical study done by Waqabaca & Morling (1999)[4] revealed that "the pass through of changes in RBF Note rates to other short-term money market rates is quick while the pass through to commercial bank rates is much slower.

4. Waqabaca, C. & Steve Morling (1999). "The Conduct of Monetary Policy in Fiji", RBF Working Paper 2/99.

The authors asserted that the transmission to the real sector appears to be reasonably strong and the transmission to inflation relatively weak, but broadly in line with other countries".

The development of bond markets certainly has important implications for monetary policy. A well-structured government yield curve would enable policy makers to determine how well the monetary policy stance has transmitted from the short-term interest rates to long-term rates. So far, there has not been any empirical research done in Fiji to ascertain bond market development influence on the transmission mechanism of monetary policy.

4.3 The Choice of Monetary Policy Instruments

Up to 1989, monetary policy was implemented using direct controls. At this time, the financial system was regulated and the RBF exercised controls on the quantity of commercial bank and interest rates. Control of the money supply was important as RBF used changes in SRD of commercial banks to influence the broad money and credit aggregates and ultimately inflation. With the deregulation of financial system, the RBF began to conduct monetary policy using a market-based approach. In 1989, the RBF introduced its own Notes, replacing the direct controls on reserve requirements and interest rates. Unlike most developed countries where central banks use Government securities to conduct monetary policy, the RBF uses its own securities to conduct open market operation. The RBF sells the RBF Notes through a weekly auction. By selling or purchasing RBF Notes, the RBF adds or withdraws liquidity from the market. The RBF does not determine interest rates on its Notes. It uses its strategic position in the market to create market conditions that influence short-term rates to desired levels.

4.4 Yield Curve

The RBF publishes monthly yield curves for Government and statutory corporation securities. The yield curve is a smooth curve that best fits or passes through the various yields of different securities and maturities at any point in time. Currently, separate yield curves are drawn for Government and statutory corporation securities. Yield curves are revised monthly with latest issues of securities and are used to compute indicative prices in the form of "price list" for Government and statutory corporation securities. The price list is disseminated to market participants who eventually use it for monthly revaluation of their

investment portfolio. The price list is also used by market participants for trading in the secondary market.

4.5 The Role of Central Bank in Bond Market

The RBF undertakes domestic debt issuance and management as an agent for the Ministry of Finance and is the registry and paying agent for domestic government securities. The RBF also acts as a settlement agent for Government external debt payments and receipts. The DCFMU, Treasury Section and the RBF are the Government agencies involved in public debt related transactions. The primary task of the Ministry of Finance (MoF) and the RBF has been to ensure that there are enough balances in the Government central account to make timely debt service payments (external and domestic). The RBF assists the Government in providing information and advice on movements in the domestic and foreign market as and when required.

The RBF continues to play an active role in supporting and developing the bond market in Fiji. The RBF has enhanced the basic bond market infrastructure by automating most of its registry processes. It also provides regular policy advice to the Government on various issues including public debt management. The RBF actively facilitates bond market development through various forums. The RBF is building its domestic bond market portfolio with a long-term view to conduct open market operations.

4.6 Views on Asset Backed Securities

Asset-backed securities are issued in order to securitise assets that would otherwise be held on the balance sheets of financial institutions and other business. This is also known as mortgage-backed securities. In Fiji, there has been only one corporate bond issue that was guaranteed by an asset.

5. Challenges and Strategies to Develop Well-functioning Bond Market

5.1 Factors Hindering Bond Market Development

The following are the impediments to bond market development in Fiji. Similar sentiments were also highlighted in the Capital Markets Development Group Report of September 2003.

5.1.1 Lack of Awareness

There is limited awareness for the general public on the various types of securities offered in the market. Similarly, this is applicable to the private sector such as corporate bodies looking for long-term finance for their operation and capital expansion. However, generally, there has been much reliance on the banking system for source of funds and investment. As a result there has been few issuers and institutional investors in the market.

5.1.2 Narrow Investor Base Limited to Few Institutional Investors

There are a small number of institutional investors in the market. These institutions provide a captive source of funding for issuers. There are only a handful of retail investors in the market. In Fiji, whilst returns on bonds are comparatively attractive when seen against commercial bank deposit rates, there is currently very low interest shown by the retail investor in the bond market.

(i) Size of Fiji National Provident Fund

The size of the FNPF has far-reaching influence on competition and development of Fiji's financial market. The FNPF is the principal player in the domestic bond market and accounts for almost three quarters of all outstanding bonds. In its current form, the Fund provides a captive market for financing Government's budget deficit.

(ii) Liquidity of Instruments

Generally, domestic debt securities instruments sold in Fiji are held by buyers until maturity. Therefore, secondary market trading activity is thin resulting in very illiquid debt securities. The FNPF has the potential to generate activity in the secondary market with its large bond holdings and help develop the market. However, it could not take a more active role in the development of the market, as it does not have the mandate to do so. The Fund continues to have a buy-and hold strategy on bond investment.

5.2 Measures/Strategies for Developing Bond Market

5.2.1 Past Efforts/Recent Initiatives

(i) Increase Awareness of the Bond Market

The RBF actively disseminates relevant securities information such as tender results, price list and yield curve and a comprehensive public sector borrowing schedule to the general public on a regular basis. The RBF's recent initiative on the awareness has been to improve the dissemination of information and make it more investor friendly. Similarly, CMDA significantly expanded the scope of its public awareness and investor education programs over the recent years. To keep the general public abreast of new developments in the capital markets the CMDA publishes and distributes pamphlets and newsletters. It has recently published a bond booklet to create awareness amongst investors. The CMDA conducts workshops and courses to enhance the skills and expertise of intermediaries and also aspiring investors and entrepreneurs.

(ii) Deregulation of the Superannuation Industry

The Government has already shown its commitment in this area by announcing in its Budget in the past few years on the future direction of the industry and the role it can play to develop the market. The Government in its 2001 National Budget Address announced its intentions to explore the possibility of deregulating the superannuation industry in Fiji to promote competition, improve returns and widen the choices available to contributors. Following RBF's submission to the Minister on the options to deregulate the superannuation industry, Government considered the option of FNPF retaining its central collection and registry role but reallocating the funds to other investing agencies under an appropriate legal framework.

5.2.2 Measures to Further Develop the Bond Market

The RBF, CMDA and Government will be examining options or strategies to develop a deeper and more liquid securities market in Fiji. Some suggestions that would be explored include:

- Developing "benchmark" bonds to create greater liquidity and to promote secondary market trading; and
- Introducing a retail debt instrument for small individual investors.

6. Conclusion

Fiji's financial system is reasonably well-developed with a wide network of financial institutions and a small, growing capital market. The regulatory framework and bond market infrastructure have supported growth of the domestic bond market. Major players, such as the Government, RBF and CMDA have continued to assist the development of the capital market. In addition, they are in a collaborative effort examining ways to further develop the bond market in Fiji. A developed bond market would enhance overall efficiency of the financial system and would boost economic growth even further.

Data

1. Total outstanding domestic debt securities (in USD and as a percent of GDP)

Table 3.3: Total Outstanding Domestic Debt[1]

	US$M[2]	% of GDP
1996	987.3	45.9
1997	989.4	51.0
1998	714.2	44.0
1999	725.5	39.7
2000	704.9	43.1
2001	737.0	44.9
2002	915.5	47.7
2003	1,185.6	48.0
2004	1,402.1	50.7

Note:
[1] Total Debt includes Government Stock, Statutory Corporation and Corporate Bonds.
[2] Data on exchange rate used was end of period.
Source: Reserve Bank of Fiji

2. Distribution of outstanding domestic bond by holder or investor base.

Table 3.4: Distribution of Outstanding Domestic Bond by Investors (Percent)

	Reserve Bank	Commercial Bank	Pension Fund[1]	Insurance Companies	Trust Fund	Others	Total[2]
1996	-	13.9	74.7	10.2	0.6	0.7	100.0
1997	-	11.8	77.1	8.9	1.3	1.0	100.0
1998	-	12.3	75.1	9.9	1.6	1.1	100.0
1999	3.4	10.9	71.2	10.3	1.9	2.3	100.0
2000	3.5	10.4	71.8	10.1	2.2	2.1	100.0
2001	3.5	9.1	72.5	9.7	2.8	2.4	100.0
2002	2.9	8.5	72.8	10.0	3.3	2.5	100.0
2003	4.2	5.9	73.1	10.0	3.5	3.4	100.0
2004	3.3	6.1	73.8	9.7	3.3	3.8	100.0

Note:
[1] Includes Fiji Government Stock, FNPF Inscribe Stock and Statutory Corporation Bonds.
[2] Differences, if any, are due to rounding errors.
Source: Reserve Bank of Fiji

3. Distribution of Outstanding Domestic bond by major issuers (government or private).

Table 3.5: Distribution of Outstanding Domestic Bond by Major Issuers (Percent)

	Fiji Government[1]	Statutory Corporation	Corporate Bodies	Total[2]
1998	71.6	28.4	-	100.0
1999	73.4	26.6	-	100.0
2000	75.2	24.8	-	100.0
2001	76.5	23.5	-	100.0
2002	79.4	20.3	0.3	100.0
2003	82.4	17.3	0.2	100.0
2004	86.1	13.7	0.2	100.0

Note:
[1] Includes Fiji Government Stock and FNPF Inscribe Stock.
[2] Differences, if any, are due to rounding errors.
Source: Reserve Bank of Fiji

4. Secondary Market Liquidity

Table 3.6: Secondary Market Turnover

	No. of Transactions	Trading Value US ($M)	Turnover Ratio[1]
1996	60	32.4	3.3
1997	68	39.8	4.0
1998	47	7.4	1.0
1999	98	42.2	5.8
2000	40	6.9	1.0
2001	66	11.7	1.6
2002	19	5.4	0.6
2003	57	23.8	2.0
2004	65	12.3	0.9

Note:
[1] Turnover Ratio is the annual secondary market turnover divided by the total bonds outstanding.
Source: Reserve Bank of Fiji

5. Composition of Domestic Debt Securities.

Table 3.7: Composition of Domestic Debt Securities (F$M)

	Fiji Government Stock [1]	Statutory Corporation Bond	Corporate Bond	Total
1996	922.3	444.0	0.0	1,366.3
1997	1,115.1	417.7	0.0	1,532.8
1998	1,016.3	402.2	0.0	1,418.5
1999	1,046.6	379.6	0.0	1,426.2
2000	1,158.6	382.1	0.0	1,540.7
2001	1,302.6	399.0	0.0	1,701.6
2002	1,501.1	384.3	5.0	1,890.4
2003	1,682.7	353.9	5.0	2,041.6
2004	1,986.5	314.9	5.0	2,306.4

Note:
[1] Includes Fiji Development Loan, NBF Funding Bond and FNPF Inscribe Stock.
Source: Reserve Bank of Fiji

6. Financial sector profile/financial market summary.

Table 3.8: Financial Market Summary

	1996	2003	2004
Stock Market			
Market Capitalisation ($M)	114	748	882
Bond Market			
Nominal Value Outstanding ($M)	1,366.3	2,041.6	2,306.4
Commercial Bank Loans			
Commercial Banks' Loans & Advances ($M)	1,168.2	1,362.7	1,625.6

Note:
Source: Reserve Bank of Fiji & South Pacific Stock Exchange

7. Distribution of outstanding domestic bond by maturity structure.

Table 3.9: Distribution of Outstanding Domestic Bond[1] by Maturity Structure

	1996	2003	2004
1-3 years	33.1	32.9	31.1
4-5 years	17.3	21.2	19.5
6-7 years	12.7	17.8	16.2
8-10 years	16.0	14.1	16.3
11-15 years	20.9	14.0	16.9
Total	100.0	100.0	100.0

Note:
[1] Excludes Fiji National Provident Fund Inscribe Stock.
Source: Reserve Bank of Fiji

8. Exchange rate.

Table 3.10: Exchange Rate per Fiji Dollar (End of Period)

	(US$)
1996	0.7226
1997	0.6455
1998	0.5035
1999	0.5087
2000	0.4575
2001	0.4331
2002	0.4843
2003	0.5807
2004	0.6079

Source: Reserve Bank of Fiji

Appendix 3.2

Abbreviations

BES	-	Book Entry System
CMDA	-	Capital Markets Development Authority
CSRL	-	Central ShareRegistry Limited
DCFMU	-	Debt and Cashflow Management Unit
DCPC	-	Debt and Cashflow Policy Committee
ESA	-	Exchange Settlement Account
FIRCA	-	Fiji Islands Revenue and Customs Authority
FNPF	-	Fiji National Provident Fund
MICR	-	Magnetic Ink Character Recognition
MoF	-	Ministry of Finance
MPC	-	Macroeconomic Policy Committee
OTC	-	Over the Counter
RBF	-	Reserve Bank of Fiji
RTGS	-	Real Time Gross Settlement System
SPSE	-	South Pacific Stock Exchange
SRD	-	Statutory Reserves Deposits

Chapter 4
The Indonesian Bond Market and Its Implications to Central Bank

by
Elisabeth Sukawati and Dudi Dermawan[1]

1. Introduction

1.1 Reasons for the Issuance of Bonds in the Market

The bond market plays an important role in the Indonesian economy as it provides the private and public sectors with alternative options such as source of financing, refinancing, and the managing of debt profile. In addition, it provides the benchmark yield for financial instruments. From Bank Indonesia's (the Bank) perspective, the development of the domestic bond market is relevant as the bond market enables the Bank to get views on the market expectations of interest rate or inflation rate. Although the Bank currently uses base money as the operational target of the monetary policy to achieve the inflation target set up by the Government, it has plan to use interest rate as an operational target. The use of short-term interest rate is to convey monetary policy signal across the whole maturity spectrum, as the bond market gets deeper and liquid.

The reasons for developing the bond market are the need for more diversified alternative sources of financing for the private sector and the government, and the need to enhance monetary policy transmission mechanism after the collapse of the banking system during the crisis. Firstly, the private sector has limited access to bank loans, after the crisis, as the private and banking sectors have undergone consolidation. Consequently, some good private companies prefer to issue bond than to borrow from banks since bonds have lower cost than bank loans. Secondly, the bond market is essential for the government to raise fund in order to finance the budget deficit that has mounted due to the banking

1. Authors are Economist in Policy Review Team, Monetary Policy Bureau, Directorate of Economics Research and Monetary Policy and Junior Analyst in Money Market Development Division, Monetary Management Directorate, Bank Indonesia., respectively. The authors would like to thank Filianingsih Hendarta, Suhaedi, Darsono, Mulia R Simatupang, and Fitria Irmi Triswati of Bank Indonesia for helpful comments and suggestions. The views expressed in this paper are those of the authors, and do not necessarily represent the views of Bank Indonesia.

recapitalisation programme, to refinance the matured debt and to manage the debt management profile that are needed for fiscal sustainability. Next, the central bank pays considerable attention to the bond market, as it provides a channel for monetary transmission through asset prices. This is because the transmission channel through the banking sector has become weaker. Moreover, the development of a yield curve for government bonds could be a good signal for the expectation of market players toward the future interest rate and inflation. In conclusion, the three parties may benefit from the deep and liquid bond market.

The Indonesian bond market is currently in its developing stage. Although a number of corporations have issued debt instruments for more than a decade, its secondary market has not been active until recently. While government bonds have existed since 1999, their trading in the secondary market only commenced in February 2000 and has gradually been developing. The primary market for government securities has yet to develop and prominent steps have been taken.

This paper is based on a review of information available in the public domain and available upon request in order to match the required information as suggested by the SEACEN Centre[2]. In addition, the discussion on corporate bonds is kept brief as it is intended only as a comparison to the Government Bond market. This paper provides the reasons for issuing bond with special focus on banking restructuring programme as the background of the issuing of government bond (Section 1), the development of bonds market, both government and corporate, and its future prospects (Section 2), the bond market's infrastructure (Section 3), followed by the interlink between bond market and central bank policies including the possibility of government bond as monetary instrument (Section 4). Section 5 provides some assessment of the challenges and strategies to develop well-functioning bond market and it ends with conclusion.

1.2 Banking Restructuring Programme

The East Asian financial crisis stands out as one of the major crisis of the 20th century. After enjoying marked economic growth for three decades, Indonesia experienced an extraordinarily turbulent "twin crises" – a currency crisis and a banking crisis in 1997. The impact of the crisis has been devastating and Indonesia has suffered badly. There has been a deep and prolonged recession and the fiscal costs of crisis resolution have so far amounted to more than 50%

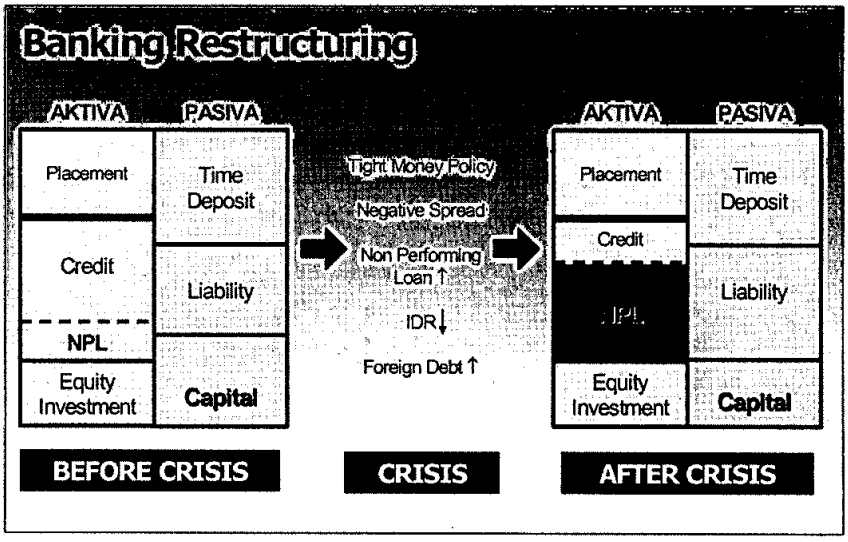
2. PT Kustodian Sentral Efek Indonesia.

of its annual GDP. Although the crisis is now over, Indonesia will experience its effects for years to come.

As the rupiah came under heavy pressure, Bank Indonesia tried to defend the rupiah against speculative attacks by widening the band from 8% to 12%, intervening in the market and raising the official interest rates of the Bank Indonesia Certificate. Due to intense market pressures, on 14 August 1997, Bank Indonesia abolished the intervention bands and the rupiah was freely floated.

One of Indonesia's fundamental economic problems was a large amount of unhedged offshore borrowings by the private sector. Although the government was quite effective in limiting foreign offshore borrowing by commercial banks, it was not in the case with the non-bank private sector (NBPS).

Figure 4.1 : Banking Restructuring



To rescue the banking system, the government conducted banking restructuring programmes which included the bank recapitalisation programme (Figure 4.1.). The Government conducted due diligence and assessment on the viability of banks to join the recap programme. The results that were announced on 13 March 1999 were as follows: (i) 74 banks were solvent; (ii) 38 banks were insolvent and would be closed; (iii) 7 insolvent banks to be taken over and would be merged and recapitalised; and, (iv) 9 banks would be recapitalised. Meanwhile, the state banks (all were insolvent) and 12 insolvent regional development banks would also be recapitalised.

The closure of 17 banks in November 1997 in the absence of a deposit guarantee scheme and the long process of due diligence have led to bank runs on the perceived weak banks and flight to the perceived good banks. As a result, Bank Indonesia had to provide liquidity support to those banks in order to maintain the stability of the payment and banking system. The cost of the recapitalisation programme covered the government issuance of Promissory Notes to Bank Indonesia and government recapitalisation bond to recapitalised banks.

2. Recent Developments of Domestic and International Bond Markets

2.1 Type of Debt Instruments

Debt instruments issued in Indonesia can be divided into three major issuers: government, central bank and corporate sector debt securities. Outstanding government debt is in four forms: recapitalisation bonds, promissory notes issued for Bank Indonesia, T-Bonds and international bonds denominated in foreign currency. The Bank Indonesia Certificate (SBI) is a short-term discount securities issued by the Bank as an Open Market Instrument. Corporate sector debt securities are in the form of corporate bonds which have been issued since 1980s.

2.2 The Corporate Bond Market

The deregulation in the capital market and the banking industry in 1987 and 1988 respectively, brought life to the Indonesian bond market. Before the deregulation, banks were the main source of traditional financing for the business community. In 1988, some companies began to issue interest bearing debt instruments, including bonds, in the domestic market. There was also an expansion of debt issuance activities in offshore markets during those years. However, the

share of the corporate bond market to the equity market is still small. The equity market has shown rapid growth since foreign investors have been allowed to participate in the domestic capital market. The bond market has grown at a much slower pace compared to that of the stock market.

At present, only limited foreign bonds, approximately $ 105 million, are traded in the domestic market. Under the present regulations, only qualified domestic institutions are allowed to issue bonds for domestic or offshore markets. There are two types of bonds issued by domestic companies in the domestic market - straight bonds (with a fixed or floating rate coupon) and convertible bonds. Until 1989, all issues offered were at fixed rates. The floating rate bonds were introduced in the domestic market in 1989 and became a preferable market practice in recent years. Most floating rate issues are pegged to bank composite deposit rates with a certain margin.

Bonds are traded informally over-the-counter or formally on a listed exchange. The Surabaya Stock Exchange (SSX) was established in 1989 and soon became the accepted place for exchange based trading in debt instruments. The SSX is subject to supervision by the Capital Market Supervisory Agency (BAPEPAM - Badan Pengawas Pasar Modal). A company which intends to publicly issue stocks or bonds, must fulfill the intended BAPEPAM requirements. In addition, an independent company, namely PT. KSEI - Kustodian Sentral Efek Indonesia , has been designated as the central depository for all equity and corporate debt instruments.

The secondary market for corporate bonds is still small, albeit showing good progress as reflected by the increase in the trading volume and market capitalisation. The lack of any reliable benchmarks amidst the absence of a liquid government securities market, small market capitalisation, and a large portion of bonds being held by a limited group of investors are the main factors for the lack of development of the secondary market. Trading activity is focused mainly on newly issued bonds that typically pass through the bank's treasuries before they find portfolio investors who mainly hold the bonds until maturity. Typically, secondary market trading in a given issue is usually active only for a short period after the initial offering. Since 2002, the development of the government bond market has a favourable impact on the development of the corporate bond market as it has doubled in trading volume and market capitalisation.

The Surabaya Stock Exchange provides bond listings and trading facilities for Indonesian investors. About 95% of the corporate bonds issued in Indonesia are single listed on the SSX, which operates on a specialist bond trading system known as OTC-FIS. The system is designed to facilitate the trade of the bonds by providing bid and offer quotes, negotiation and transaction support. The intent of the exchange in developing this system was to provide infrastructure and transparency to the market for bonds and other fixed income instruments, which would lead to greater efficiency in the market.

By December 2004, 107 issuers had listed bonds in the SSX, with the total corporate bonds outstanding amounting to IDR62.8 trillion, compared with only 9 companies with a total issuance of less than IDR1 trillion in 1988. Trading in the secondary market is not active, as institutional investors tended to buy and hold bonds until maturity. Previously, trading of corporate bonds on the SSX had averaged approximately 27 trades per day in 2004[3], an increase from the 6 transactions per day in 1999.

2.3 The Government Bond Market

2.3.1 Indonesian Domestic Government Securities

(i) Government Bond

For the first time since the 1950's, the Government of Indonesia decided to issue domestic rupiah bonds in 1999 to finance the banking recapitalisation programme aimed at saving the Indonesian banking sector from collapse. The scale of the banking restructuring programme was enormous, reaching IDR658 trillion or 51% of GDP, in which IDR430 trillion was for banking recapitalisation, and IDR 218 trillion was for liquidity support and government blanket guarantee scheme, and IDR 9,97 trillion for finance programme loans of the central bank. The debt securities for Bank Indonesia are non- tradable Promissory Notes with principal indexed to the CPI and coupon rate of 3% p.a. The coupon rate of promissory notes of the credit programme was SBI plus a certain margin.

3. The average number of transactions per day increased significantly in 2002 to 6.9 with the issuance of a tax law in March 2002, which gives incentive to trade through the exchange. It is believed that a number of transactions took place in the over-the-counter market, but these were not reported. The low reporting rate may be related to the tax policy imposed on transactions done through the stock exchange.

The government placed a total of 25 tradable bonds in the recapitalisation programme totaling IDR430 trillion. A total of 9 fixed rate bonds were issued with coupons ranging from 10% to 16.50% and initial maturities of either 5 or 10 years. A total of 16 variable rate bonds were issued, with coupons paying interest quarterly linked to the 3-month SBI rate. The placement of these bonds was in the banks' investment portfolio. Trading of the issues was only possible after the bank moved the bonds from its investment portfolio to its trade portfolio. Restrictions were imposed as to when the banks could move the issues from the investment portfolio to the trading portfolio. Issues in the investment portfolio are recorded at par value, whereas issues in trading portfolio are marked-to-market.

As of December 2004, the total outstanding government bonds stood at IDR661.8 trillion (after indexation to inflation and exchange rate). The fixed rate issues stood at IDR178.7 trillion. The total outstanding variable rate issues stood at IDR220.6 trillion. A total of IDR2.8 trillion of hedge bonds was issued to certain banks to cover their foreign exchange losses and exposure. These bonds carry coupon interest of 2 per cent above the 3-month SIBOR Dollar Index and are not tradable while International Bonds in USD amounted to USD1 million. The promissory notes issued for the central bank accounted for IDR250.4 trillion.

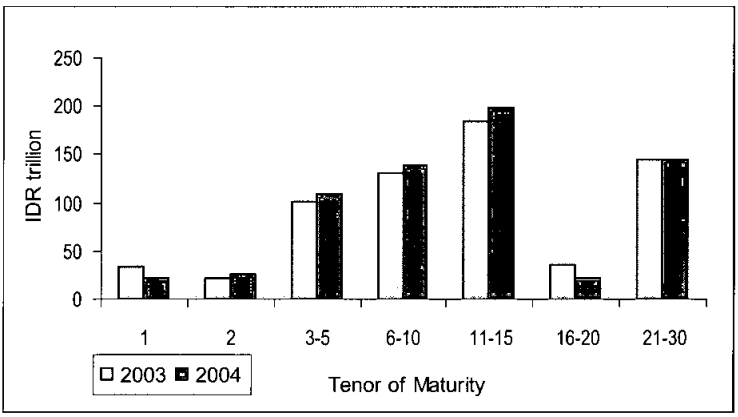
The government was fully aware that creating a market for such an enormous amount of government bonds being held in the recapitalised banks was a great challenge. The government then imposed a prudential regulation for recapitalised banks to gradually release their bonds holding and the objectives were twofold. The first was to ensure that recap banks did not misuse the liquidity generated from the sale of their bonds. Secondly, excessive supply of government bonds in the market could lead to substantial increases of interest rates, thereby making it more expensive for future issuance.

Although the first trance of the recap bonds was issued in May 1999, banks were not permitted to trade until February 2000. At that time, banks were allowed to trade up to 10 % of their original bond holdings from their investment portfolio. The maximum amount of trading was gradually increased to 15 % in September 2000, 25% in December 2000, 35% in February 2001, and lastly to 100% in July 2001. Today, recap banks' investment portfolios are no longer regulated, and trading activity is left to the banks' discretion.

(ii) Maturity Profile

Care was taken in selecting the maturity profile of the recapitalisation bonds to ensure that the Indonesian government did not face excessive refinancing risk (Figure 4.2). The Government has tried to smooth principal payments over time. The average life of the bonds outstanding to be traded is seven years. It is forecasted that a portion of bonds falling due will be refinanced in the domestic bond market. However, some amount of debt may be retired as it falls due using other sources of revenue. The government will ensure that several large and liquid benchmark bond issues are maintained while focusing any net redemptions on 'off the run' issues and less traded instruments.

Figure 4.2: Maturity Profile



(iii) Market Liquidity

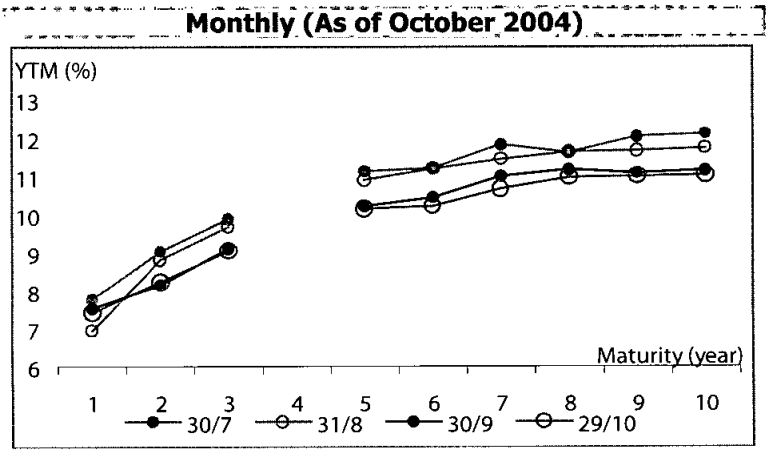
The government bonds were listed on the SSX and available for trading starting from February 1, 2000. Most trades took place in the over-the-counter market. Since inception, trading in the secondary market has slowly increased and trading volume in 2004 amounted to approximately IDR512.9 billion per annum, increasing from IDR20.9 billion in 2000. The number of transactions increased from 161 in 2000 to approximately 23,939 transactions in 2004.

The market turnover in the government bond market increased significantly. The ratio of average transactions per day over the total value of bonds in the

trade portfolio for 2004 (November) was 1.0%, an increase from year 2000's ratio of 0.29%. Turnover is expected to increase. Out of the total IDR 400 trillion recap bonds in the investment portfolio, so far only IDR 207 trillion has been allocated to their trading portfolios. In addition, the current relatively low interest rate is conducive for investments in the bond market.

Commercial banks and securities companies are the dominated buyers and sellers followed by mutual fund, insurance, and pension fund. The most active bonds trading are FR0002, FR0004, FR0005, FR00023 and FR0026, the transaction volume of which reached IDR 10 trillion per month.

Figure 4.3: Governments Bond Price in October 2004



Since October 2004, the price for some series of government bond has been fluctuating and tended to be bearish, while the price of the rest of the series remained stagnant. Figure 4.3 shows that the price of government bond series FR0004, maturity May 2006, and FR0005, maturity July 2007, dropped off as a huge private bank sold their portfolio to the market. The range of price fluctuation is about 8 to 32 basis point. The bond series FR0022 had the biggest drop compared with the other maturities and FR0004 was the only one that increased in price. However, the monthly yield curve, as of October 2004, shows a stagnant condition.

Figure 4.4: FR0004 (May 2006

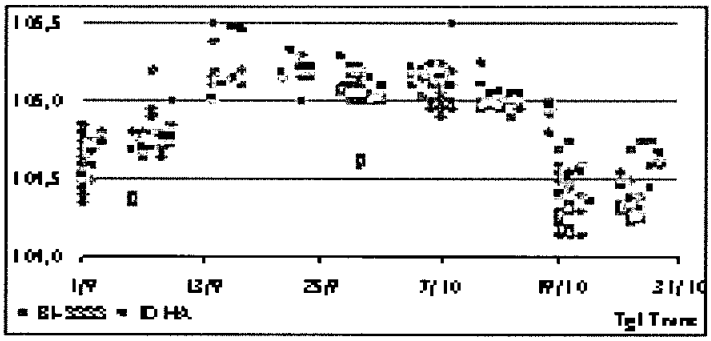
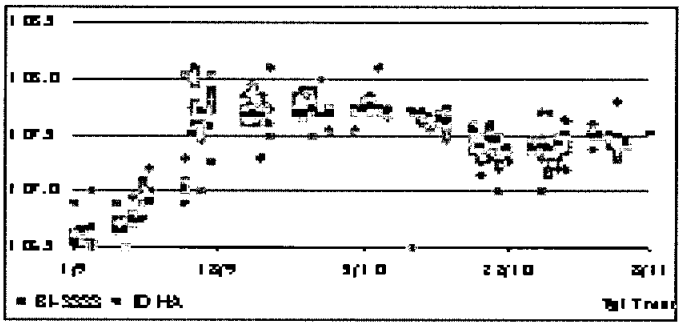


Figure 4.5: FR0005 (Jul 2007)



Bank Indonesia holds most of the government securities that are non-tradable promissory notes (Table 4.1) while other securities are held by commercial bank and sub registry.

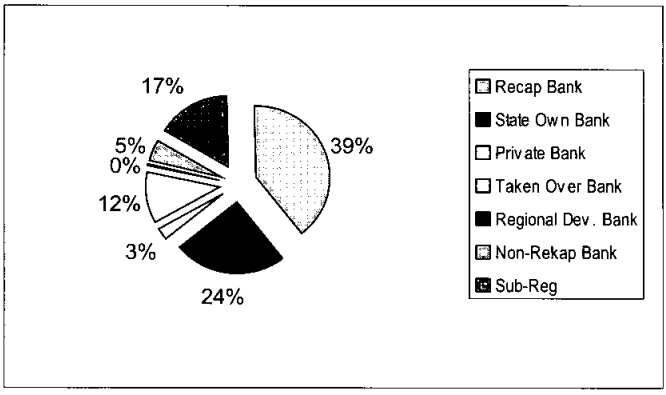
Table 4.1: Distribution of Outstanding Government Securities by Holders

Year	Central Bank	State Own	Private	Taken Over	Banks Regional Dev.	Non-Recap	Sub Registry	Ministry of Finance	Total
1999	32,2%	25,1%	31,1%	11,3%	0,2%	0,0%	0,0%	0,0%	100%
2000	34,6%	42,9%	4,9%	16,1%	0,2%	1,1%	0,3%	0,0%	100%
2001	36,3%	38,7%	6,1%	13,2%	0,2%	3,6%	1,8%	0,1%	100%
2002	35,1%	37,9%	4,6%	12,7%	0,2%	2,1%	7,3%	0,1	100%
2003	35,1%	32,7%	3,7%	12,5%	0,3%	4,4%	11,3%	0,0%	100%
2004	37,8%	24,4%	2,8%	11,5%	0,1%	5,0%	18,3%	0,0%	100%

Note:
Central Bank holds non tradable promissory notes
Source: OGBM, Bank Indonesia

In addition, banks own most of the tradable government bonds. Recap banks holds around 39%, State-owned Banks hold 24%, Sub-registries around 17%, Taken Over Banks around 12%, non- recap banks around 5%, private banks around53%, and regional development banks less than 1% (Figure 4.6)

Figure 4.6: Ownership of Government Bond in 2004



(iv) Prospect

Indonesia's bond market is currently evolving, and is expected to learn from other countries' experience, and the evolution will be one that is gradual and tedious. The Japanese government, for example, began to issue significant numbers of bonds in the late 1970s, and the development of a fully operational bond market took nearly 10 years to establish. Unfortunately, the Indonesian government does not have 10 years to wait, and the Indonesian bond market needs to be developed in a much shorter time frame. With this in mind, Indonesia, through the Ministry of Finance and the Central Bank, is giving a top priority to the development of primary and secondary markets for its government securities.

2.3.2 Indonesian International Government Bonds: History and Prospect

The first placement of international government bonds was made in July 1978 in the Japanese market with the Samurai Bonds. This placement which was privately issued, amounted to 10 billion Yen, which included a 4 year grace period and was due in 1998. The coupon was fixed at 17.5% p.a. with a dis-

count rate of 1/8% and issues price of 99 7/8%. The next international government bonds were placed in Germany on October 9, 1978 in Deutsche Mark. These bonds were publicly issued and registered in the international stock exchange market. The total amount of the issued bonds was DM 100 million with a maturity period of 6 years. The coupon rate was fixed at 7% p.a. and the bond was issued with a discount of °% (issue price 99 °%).

During period 1981 to 1996, the Indonesian government issued the following international bonds:

Table 4:2: International Bond Issues of Indonesia

No	Issued date	Maturity date	Place of issued	Amount	Interest rate	Bond Type
1	Apr 17, 1981	Apr 28, 1987	Tokyo	10 Billion Yen	8,6%	Samurai Bonds
2	Sep 3, 1982	Sep 8, 1986	Tokyo	10 Billion Yen	9%	Samurai Bonds
3	Mar 17, 1983	May 01, 1984	Amsterdam	100 Million NLG	8,75%	Dutch Guilder Bonds
4	Ags 18, 1983	Ags 24, 1987	Tokyo	10 Billion Yen	8,5%	Samurai Bonds
5	Oct 4, 1983	Oct 6, 1993	London	250 Million USD	LIBOR +0,25%	Floating Rate Notes
6	January 1986	Feb 18, 2001	London	$ 300 million	LIBOR +3/16%	Floating Rate Notes*
6	Oct 24, 1988	Oct 27, 1993	Frankfurt	DM 300 million	6,375%	DM Bonds
7	July 1996	July 30, 2006	New York	$ 400 million	7 ∫%	Yankee Bonds

*Notes: **

Although FRN maturity date was in 2001, the holder of the note had the option to redeem the note before the maturity date at its principal amount. This option can be exercised on the interest payment dates falling between February 1993 to February 1996. Before the maturity date, the government had bought most of the notes originally issued; therefore, the total amount outstanding left on maturity date was $ 26 million.

In the secondary market, these bonds performed very well during the pre-crisis period of 1996 to the end of 1997. The beginning of the crises greatly affected the bond's performance as reflected by the declining price after the third quarter of year 1997. As the crises spread further, the price of the bonds dipped down. On October 13, 1998 the bond reached its lowest price of 46.31. Since mid-1999, the bond's performance revived somewhat and price stayed at levels well above 80. Currently the bond is traded at prices around 95.

With the international bonds maturing in the coming 4 years, Indonesia needs to consider issuing new ones as it does not have any other international bond outstanding in the international capital market. New international bond issuance would have two purposes for the government of Indonesia. Firstly, it could serve as an alternative source of funding for the government budget. Secondly, it could at the same time serve as a benchmark for other Indonesian issuance, especially bond issuance by the Indonesian corporations.

In order to have an alternative source of foreign financing aside of the existing bilateral and multilateral donors, the Government could explore the possibility of issuing structured bonds that are now available in the capital market such as guaranteed bonds and asset-backed bonds. These types of bonds are a solution for a country with a marginal of sovereign debt rating but needing foreign capital. The guarantee scheme in this type of bond would enhance the bond's rating which is much higher than the rating of the issuer, thus reducing the cost of fund. Nonetheless, the fact that the Indonesian economy has not completely recovered would hinder any government intention to issue such a bond. High government debt burden along with weak economic performance has resulted in a relatively very low sovereign rating for Indonesia, a key factor to convincing international investors of the plausibility of a debt instrument.

In line with the pace of recovery from the crisis, Indonesia's sovereign credit rating is currently at the investment grade. Officially, Indonesia's sovereign credit rating is assessed by three international rating agencies, i.e. Standard and Poor's, Moody's and Fitch IBCA. Fitch and Moody's are both giving an equal B-/B3, with stable outlook for Indonesia while Standard & Poor's gives a much higher rating of B+, as economic outlook improves. With this rating, the availability of foreign capital for Indonesia, if any, is limited and would be costly to cover for the risk premium. The fact that the government has gone for Paris Club restructuring twice and is considering a third, would also affect the market absorption for any additional debt instruments issued by Indonesian government.

However, the issuance of the Global Bond (Government Bond in foreign currency) on March 3, 2004 has been successful. The issuance of USD1 billion was oversubscribed 4.16 times. It has a coupon rate of 6.75% and yield of 6.85%. Compared with US T-Notes, it has 277 bps spread over the Notes. Although it has a wide spread, the overall market response can be used to assess the market's perception about risk towards Indonesia's long-term debt in foreign currency, which is getting better.

2.3.3 Why Develop the Market for Government Bonds?

The size of the Indonesian bank restructuring and recapitalisation programme was enormous, and caused a heavy financial burden on the fiscal budget arising from the issuance of recap bonds. However, the existence of the bonds provides the government, the Central Bank, the recapitalised banks, and corporations with a number of opportunities over and above the immediate objectives of restructuring the banking system. There are at least four reasons why we have to develop the government bond market.

The first is the need to develop a sustainable government debt structure. A fully functioning government securities market will provide that market with a yield curve based on sovereign debt. The practice of issuing benchmark issues across the yield curve has been adopted in many countries because it could reduce the cost of the government's annual debt servicing programme. There are two reasons why this happens. First, investors are prepared to pay a premium for improved liquidity and the ability to quickly alter their holdings of individual issues. Second, an established range of liquid stock increases the scope and flexibility for the government to raise funds by allowing issuance into those parts of the yield curve in greatest demand.

If bonds are issued regularly according to a pre-announced programme, then investors will be able to plan their participation in the primary market, which in turn provides the government with a potentially wider pool of investors, offering more attractive rates at auction. This factor increases the flexibility of the debt management programme. By implementing professional debt management in an environment supported by an active secondary market, the forward maturity profile for the same debt can be restructured in order to achieve a well-balanced debt portfolio.

The second is to reduce dependence on foreign borrowing. Apart from the enhanced ability of the corporate sector to borrow debt denominated in Rupiah, the government can also take the advantage of the domestic market to raise funds in Rupiah, thereby reducing its exposure to exchange and foreign interest changes. For several decades, Indonesia has adopted a balanced budget rule. In general, the term "balanced budget" means that a government cannot borrow to finance the shortfall between its revenues and expenditures. In Indonesia, however, the rule simply means that all expenditures have to be financed through the provision of development financing or foreign borrowing, usually obtained at

concessionary rates. As such, the Indonesia Government has for a long time been insulated from paying interest rates on its borrowings, provided that the funds raised were channeled into development projects. The issuance of domestic bonds for the purpose of balancing the budget was not undertaken.

This approach means that the bulk of budget financing was undertaken in foreign currencies. With the fall in the Rupiah, the cost of these concessionary loans has proven expensive and led to an unprecedented fiscal burden. Nevertheless, it should not be concluded that foreign borrowing must be avoided. A well-balanced government debt portfolio that allows its managers to systemically predict the cheapest form of borrowing and to diversify foreign currency blocs can be a low-risk portfolio approach.

In order to achieve the optimum balance between domestic and foreign borrowing, the ability to swap and refinance in both domestic and foreign bond markets according to the prevailing conditions is essential. With a well-developed domestic bond market in existence, the government's policy options in minimising the overall cost of debt servicing are greatly enhanced.

The third is to support the implementation of monetary policy. As commonly practiced in many countries, government debt instruments are found to be effective instruments for open market operations since they are sovereign debt with no credit risk. In the absence of government securities such as Treasury bills and bonds, Bank Indonesia uses the SBI in conducting day-to-day monetary operations and it has become the primary instrument for investing of short-term excess liquidity by banks, corporations and individuals.

It is acknowledged that there is a potential conflict of interest when the central bank is responsible for managing monetary conditions and is also the issuer of the instruments used. For example, when the Bank issues SBI to tighten liquidity, it must also bear the cost of doing so. Apart from undertaking monetary operations, the management of the Bank is required to protect its balance sheet. This may undermine the effectiveness of central bank policy if it were to find itself in a position where its monetary operations are starting to adversely affect its own balance sheet. This potential conflict could be removed when the central bank moves to using government securities as the primary instruments for monetary operations. The Central Bank is now considering how and when it may make a move to use government securities and phase out its SBI. The possible choice is to buy government bonds in the secondary market but it will certainly contradict the current contractionary monetary policy stance.

The fourth is to promote the private debt market. Government bonds play an important role in the development of a corporate bond market and private sector lending and borrowing activities. The primary linkage is the establishment of a benchmark yield curve of the risk-free government bonds that can be used to determine corporate interest rates by adding a margin for the credit risk premium. Since corporate bonds are usually issued for longer periods of time, there is a need for liquid benchmark securities with similar maturities. Without a reliable benchmark, the issues of corporate bonds will be below the level they might otherwise achieve.

Apart from providing benchmark issues, the existence of an active government bond market provides the basis for the pricing of other debt, and is the basis on which derivative markets for future, repo and swaps may be developed. Bond market participants generally indicate that government bonds are needed to support these markets. This is possible because a yield curve based on some other debt security would not develop fully because the issuance of that security would be opportunistic in nature. The concurrent existence of developed bond, futures, repo, swap and money markets allows participants to hedge risks, and provides flexibility for moving in and out of positions in time of volatility. The availability of hedging facilities reduces lending risks to lenders, and regular activity in these markets encourages competition, bringing lower interest costs and overheads to all participants.

3. Bond Market Infrastructure

The bond market infrastructure has improved significantly in the form of trading system, settlement and clearing of fund and securities. This improvement is a result of the efforts and coordination among government authorities and agencies, and the Central Bank.

3.1 Trading System

The Surabaya Stock Exchange (SSX) provides the trading infrastructure known as the Indonesian Government Securities Trading System (IGSTS) for government securities. The IGSTS, adopted by the Inter Dealer Market (IDM or Himdasun), is an order-driven trading system. The 15 members of the IDM have agreed on trading rules to be adopted, and the IGSTS has been designed to accommodate the rules. While accolades should be given to this user-driven approach in the design of the trading system, the trading market architecture in Indonesia is expected to continue to evolve. Possible events such as appoint-

ment of market makers, achievement of DVP to support a wider range of market participants and development of institutional investors are likely to impact on the choice of trading market architecture. IDM members and their clients are encouraged to continue to search for an optimal architecture of the trading market and be prepared to make adjustments to the IGSTS as the Indonesian debt market develops.

Bond trading has been taking place predominantly in OTC markets driven by quotes around the world. Inter-dealer brokers (IDBs) have played an important role in organising those markets. The Surabaya Stock Exchange also operates so-called OTC-FIS, a quote-driven system, to accommodate non-members of IDM. OTC-FIS itself offers differentiated access to itself to different groups of market participants, i.e., access to its trading system for SSX members and banks and information-only access to institutional investors and issuers.

The other system, accessible to domestic and international investors, is the Inter Dealer Market Association Pages (IDMA Pages). This system is developed by Bloomberg and only limited market participants (Bloomberg users) could draw on it. Similar to the IGSTS system, this system is uses the quotation price to calculate the yield curve and the source of data supply from Himdasun members. International investors could gain access to the IDMA Pages in individual pages of Himdasun members or overall information, which already exist in the system.

The benefit of IDMA pages is that real price transactions data which enables investors to monitor real market activity. Hence, investors are able to do the transactions (bid/ask) directly through the IDMA pages. The weakness of IDMA pages is that the non-active members are not frequently updated with the transaction data and thus, investors will see the broadened spread among participants.

3.2 Settlement and Clearing System

Since February 2004, Bank Indonesia started operating the Bank Indonesia Scripless Securities Settlement System, BI-SSSS[4], to facilitate the online settle-

4. *Bank Indonesia Scripless Securities Settlement System* (BI-SSSS) is a system that enables member to conduct transactions with Bank Indonesia including the administration of such transactions and also an electronic system for the registration and settlement of securities (Bank Indonesia Certificate - SBI and Government Securities -SUN) that is directly connected with the members, Bank Indonesia as the system provider and the Bank Indonesia - Real Time Gross Settlement (BI-RTGS) system.

ment of book-entry government securities and SBI. This step was crucial to develop domestic financial market. In order to function properly and comply with international standards in which settlement risk is kept to an absolute minimum under a "delivery versus payment (DVP)" facility, this system is connected to banks and sub-registries as well as to the Bank Indonesia - Real Time Gross Settlement (BI-RTGS) systems. However, the current BI-SSSS has its limitation in connecting with the capital market system and other international settlement systems.

The use of BI-SSSS has a number of benefits:

1. Decreases the time, cost and human resources needed for the settlement of transactions. By using BI-SSSS, the settlement of securities transaction is not done manually anymore but is carried out electronically through an online connection between the members and the system provider. Thus, the human resources that were previously utilised for manual settlements either at Bank Indonesia or the members of BI-SSSS can be utilised for other functions in the organisation.
2. Decreases settlement risk. The settlement of transactions in BI-SSSS will be processed on a DVP basis. This will eliminate or minimise transaction risk as the movement of funds and securities is only done when each transacting parties has sufficient funds and securities for the transaction.
3. Increases the volume of secondary market securities trading. This benefit is a result of the first two benefits as the more efficient time and cost for settlement and the increasing confidence in the safety of settlement will encourage members of BI-SSSS to increase their secondary market trading. In addition, an online settlement will quicken funds and securities transfer, which in the end will encourage members to initiate another transaction.

The system adopts a two-tier registry in which Bank Indonesia maintains the central registry as the top tier, which is supported by 10 designated sub-registries (mostly banks). Bank Indonesia maintains securities and cash accounts for banks and sub-registries, while sub-registries, in turn, maintain the registry for all non-bank institutions participating in the market.

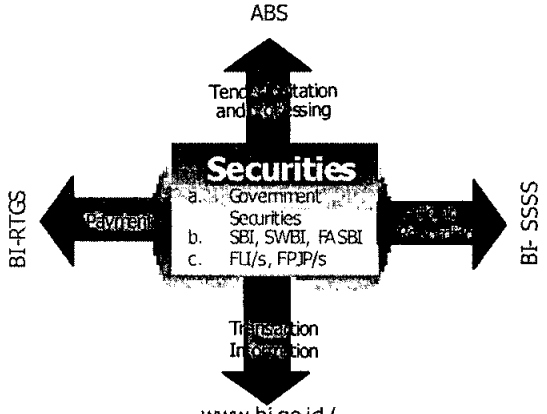
This two-tier system was chosen because there is a possibility that the government bonds may be sold directly to the public in future, and it will be more convenient for potential bondholders outside Jakarta to deal directly with the local branch of a Sub-Registry, rather than with the Bank Indonesia Head Office

in Jakarta. The architecture also allows foreign custodians to concurrently undertake registry activities, resulting in efficiencies for their customers. Bank Indonesia has established a supervision system to ensure the integrity of the overall system.

Institutions that wish to be Sub-Registries must be highly reputable and capable. The key criteria for an institution to be appointed as a Sub-Registry are set out in a Bank Indonesia Circular Letter regarding the appointment and management of Sub-Registries, and may be summarised as follows:

1. The organisation operating the Sub-Registry must be established under Indonesian law
2. The organisation must not be in bankruptcy, or under the threat of bankruptcy.
3. The organisation must have at least three years experience as a custodian or registrar, and must have at least IDR1 trillion of other assets under custody.
4. The organisation must have suitable business networks in place to support the development of the Indonesian bond market.
5. The computer and associated systems must be safe, reliable, and trusted.
6. The management and staff must be capable and qualified, and not listed on the Black List or list of defaulting debtors.
7. The organisation must meet defined financial soundness requirements.

Figure 4.7: Settlement and Clearing System



The BI-SSSS combines Bank Indonesia's transaction system – that facilitates the conduct of the Open Market Operation and the funding facility from Bank Indonesia to banks – with a system for the transaction of Government Securities for and on behalf of the Government, into an integrated system that connects Bank Indonesia with market players. BI-SSSS also includes an information system between BI-SSSS users and a settlement and registration system for securities. In the Grand Design, BI-SSSS is an integrated system between the front office and the back office. The infrastructure of the BI-SSSS covers three major activities:

1. Transaction with Bank Indonesia, which includes:
   a. SBI sales through an auction or non-auction process in the primary and secondary market,
   b. Bank Indonesia deposit facility (FASBI); and or funds deposit for Sharia Banks in the form of Bank Indonesia Wadiah Certificate (SWBI),
   c. Funding facility from Bank Indonesia such as the Intra-day Liquidity Facility (FLI), Short Term Financing Facility (FPJP) and Short Term Financing Facility for Sharia Banks (FPJPS),
   d. Transactions of SUN for and on behalf of the government which includes sales of SUN through auctions in the primary market and the purchase of SUN either through auction and non-auction process in the secondary market.
2. Settlement of transactions with Bank Indonesia.
3. Settlement of securities transaction in the secondary market.

3.3 Component and Function of the BI-SSSS

There are three main components and functions of the BI-SSSS:

1. Automatic Bidding System Central Computer (BidCC) at the system operator's site that functions as a means to transact with Bank Indonesia

2. BI-SSSS Central Computer (SCC) at the system operator's site that functions as the settlement system for transactions with Bank Indonesia and settlement of securities transaction between other members, and

3. BI-SSSS Terminal (ST) at the member's site that functions as a tool to send transactions with Bank Indonesia and to send securities settlement instructions to SCC (Table 3.1). In addition BI-SSSS also possesses a supporting

function to distribute information and tools for communication from and to system operator and between members.

Table 4.3: BI-SSSS Terminal ST

ST	Functions that can carried out by the BI-SSSS Terminal (ST)
Submit bidding through the ABS application	In the ABS application, members can : Entry Bid, Cancel Bid and Amend Bid
Conduct securities transferas part of the transaction process carried out with other members (including with BI)	Transactions that can be accomodated in the BI-SSSS : Outright Sales, Free of Payment transfer, Repo transaction, Pledging transaction including for FLI and FPJP, Securities Lending and Borowing.
Perform audit trail and transaction and securities ownership enquiry	Enquiry that can be performed : - Transaction Status - Previous transaction enquiry - Enquiry of bids submitted through ABS - Securities owned by member

4. Domestic Bond Market and Central Bank Policies

4.1 Fiscal and Monetary Policy Coordination

Fiscal and monetary policies are closely coordinated by the Ministry of Finance on behalf of the Government and Bank Indonesia as a monetary authority. The nature of coordination takes the form of regular coordinative meetings in budget preparation and its assumptions such as exchange rate, interest rate, economic growth and monetary aggregates. The budget is prepared yearly and must be approved by the Parliament. The budget discussion in the Parliament involves the central bank. From 2004 onwards, close coordination is taken for the setting of the inflation target by the government that the central bank should achieve. In order to set, monitor and control inflation, a special inter-related agency committee was established to hold regular coordinative meetings as stipulated in the memorandum of understanding between the Ministry of Finance and the

Bank[5]. Consequently, the Bank will set monetary policy towards the achievement of the inflation target. Close coordination also occurs between the Bank and the Center for Government Bond Management (CGBM).

The CGBM is a special unit within the Ministry of Finance which is responsible for policy design, developing and implementation of debt management, namely: issuance, sale, payment, administration and accounting, risk management and bond market development as mentioned by the Minister of Finance and other related regulations in place. In order to carry out its duty, the CGBM carries out its function by:

a. Designing and implementing bond management policy to manage the bond portfolio at low cost of debt and at manageable risk level;
b. Developing liquid and efficient primary and secondary bond market;
c. Preparing design guidelines and standard operations of bond management;
d. Analysing and disseminating information related to bond trading.

The CGBM and the Bank have worked in close coordination whenever there is government bond issuance. The coordination efforts take place in various arrangements such as forming committees and holding regular meetings for policy makers. A special committee was established for bond issuance that consists of people from various related areas in the Bank and the Ministry of Finance[6]. This committee has regular meetings and it discusses all aspects related to the conditions that will determine the success of the bond issuance, such as banking system liquidity, monetary aggregate, the stance of monetary policy, fiscal analysis and the need for bond issuance such as financing need, timing and fiscal ability. The committee will then make recommendations on the amount, timing, level of coupon rate, range of yield that are suitable for both fiscal and monetary purpose. Regular meetings are also held between the policy makers of the Ministry of Finance (including Head of CGBM) and the Bank after the committee has submitted its recommendations.

The role of central bank in financing the budget deficit is limited as according to the new central bank law[7], the Bank is prohibited from financing budget

5. Memorandum of Understanding between Government and Bank Indonesia on The Mechanism of Setting, Monitoring and Controlling Inflation in Indonesia dated 17 June 2004.

   Law no.3 year 2004 is the Amendment of the Central Bank Act no.23 year 1999.

6. The Ministry of Finance Decision number 472/KMK.01/2002 Establishment of committee on the coordination for fiscal and monetary policy of government debt issuance.

7. Law no.23 year 1999.

deficit. However, the Bank is obliged to give advice whenever the government issues debt securities and apply for both bilateral and multilateral offshore loans.

In the debt management matters, the role of the central bank is to give information and recommendations on bond issuance, facilitating the auction, central registry, clearing and settlement of securities and fund using its scripless BI-SSSS and BI-RTGS. The government should consult with the Bank prior to any issuance as stated in the Government Debt Securities Law no. 24 year 2002. To Bank Indonesia, the Government Debt Securities Law provides the legal basis for its duties that are related to government securities, i.e. as an auction agent and administrator for the issuance of government bonds in banking recapitalisation. More specifically, Bank Indonesia, according to the Government Debt Securities Law, plays the following roles.

a. The government first consults with Bank Indonesia when planning a government securities issue at the beginning of budgetary year;
b. Bank Indonesia as the government securities administrator covers the ownership registration, clearing and settlement, and paying agent on interest and principal on government securities;
c. Bank Indonesia acts as the government securities auction agent in the primary and secondary markets that represents the government.

In relation to the role of Bank Indonesia as auction and administration agent, it has the authority to manage the mechanism of government securities auction in the primary market that are based on the Principles of Government Securities Auction that were set by the Finance Minister. In addition, Bank Indonesia also has the authority to set government securities administrative rules. A set of rules for the government securities auction and administration has been issued by Bank Indonesia in March 2003. Government securities auction in the primary market by Bank Indonesia was first conducted at the beginning of April 2003.

4.2 Objective and Strategy for Monetary Policy

The objective of monetary policy is to maintain the value of Rupiah (exchange rate and Consumer Price Index – CPI)[8]. Before the amendment of the Central Bank Law in 2004, the inflation target was setting by the Bank. Starting

8. Before the Central Bank Law no.23 year 1999, Bank Indonesia had multiple objectives: agent of development, promote growth and stability.

from the 2005 onwards, inflation was set by the government. For example, the inflation targets –6% ± 1% for the year 2005; 5.5% ± 1% for 2006; and is 5,5% ± 1% for 2007– were determined in 2004. Bank Indonesia is now in the transition period to a full fledged inflation targeting framework[9].

The strategy to achieve the target is by influencing the demand side of the economy, using an operational target. In the meantime, while the Bank is in the transition period, base money is used as its operational target but will move towards interest rate as the operational target. The move to use interest rate is also determined by the difficulty in controlling the base money due to the demand-determined characteristic of base money and also the unclear relation between the base money and the other ultimate monetary goals.

The evolution of prevailing the monetary policy framework started since the elimination of the crawling band system (Bank Indonesia, 2003). Bank Indonesia employs base money targeting in its monetary policy framework (Table 4.4). The policy framework with base money target complements Bank Indonesia's effort in absorbing excess reserves in the banking sector originating from Bank Indonesia's liquidity support, as a consequence its function as lender of the last resort. The monetary policy framework with this monetary program is formalised as part of the IMF programme.

Bank Indonesia publishes the inflation target at the beginning of the year within this framework. Based on the inflation target and economic growth assumption, Bank Indonesia sets yearly base money target, which is converted into a monthly target. In operation, this base money target is used as a benchmark in open market operations held through SBI auctions. The SBI discount rate is fixed through an auction mechanism on a basis of stop-offer rate (SOR) and on average weighted of the winners. In addition, Bank Indonesia also holds direct market operations using FASBI to complement the absorption of banking reserves. Another instrument to influence economic liquidity is foreign exchanges intervention that has double functions, namely to absorb Rupiah excess liquidity and to smoothing Rupiah fluctuation at the same time.

9. Indonesia is categorised as an inflation targeting "lite' country by International Monetary Fund in its publications.

This monetary policy framework is largely based on two basic assumptions. First, Bank Indonesia has the capacity for controlling base money with its own instruments. Second, public demand for base money is predictable, and the relation between base money and inflation is stable, thus targeting base money enables BI to target or control inflation. In practice, however, base money is difficult to control.

Table 4.4: Monetary Policy Framework in Indonesia after the Crisis

Phase	Target and instrument	Description
Phase I (August 14, 1997 – April 1998)	Final target of monetary policy	No specific announcement on the objectives of monetary policy since the free floating was put in effect. In practice, the principal objectives were to limit the effect of exchange rate depreciation on banks and to maintain sufficient banking reserves.
	Target of transition	On October 31, 1997, base money target for 12-month period was set. In practice, Bank Indonesia closely monitored interest rates, including controlled the real interest rates to stay positive.
	Instrument	Instruments employed were a mix of indirect instruments, such as SBI, and direct instruments, such as transfers of state-owned banks' deposits to Bank Indonesia, which resulted in extremely tight banking reserves and lower base money. BI also conducted intervention in the inter-bank money market by redistributing bank reserves from strong banks to weak banks. In the foreign exchanges market, Bank Indonesia conducted intervention too.
	Target of the IMF programme	Base money experienced leak as an effect of BI liquidity support (BLBI) that was not sterilised.
Phase II (May 1998 – May 1999)	Final target	Exchange rate and price stability, by controlling reserves resulting from Liquidity Support (BLBI)
	Target of transition	Base money targeting and other quantified target within BI Balance Sheet (NDA).

Phase	Target and instrument	Description
	Instrument	Open market operations were not effective because SBI market was thin. As of July 29, 1998, the auction system was changed from interest rate target (COR) to quantified target (SOR). Foreign exchanges intervention that was not sterilized was also performed to control reserves with respect to base money attainment. In addition to SBI auction and foreign exchanges intervention, Contractive Rupiah Intervention (IRK) was also carried out to help absorbing reserves.
	Target of the IMF programme	Performance criteria using NDA.
Phase III (May 1999-now)	Final target	Inflation targeting. BI Act 23/1999 states that the final objective is to attain Rupiah stability. Inflation target is announced explicitly and central bank becomes independent.
	Target of transition	Base money, however by monitoring interest rate movements.
	Instrument	SBI, IRK (FASBI) and intervention that are not sterilised (foreign exchanges sterilisation).
	Target of the IMF program	Base money

Source: Bank Indonesia - DKM (2003).

The unfavourable performance of base money control was largely attributable to the difficulty in predicting public behaviour towards currency holding. After the crisis, the pattern of public demand for currency experienced structural changes. It was, therefore, difficult to interpret based on transactional and precautionary motives only. Base money control became more difficult as banking intermediation has not functioned normally. Under such a condition, raising monetary instrument interest rate (SBI) to absorb currency in the banking system were often hampered by the low response of the deposit interest rate, so that a higher interest rate increase than what would have been required was necessary to stimulate currency into the banking system.

This often posed a dilemma to Bank Indonesia in the implementation of monetary policy. On the one hand, Bank Indonesia had to implement a tight policy stance in order to reduce the demand for base money, which resulted in higher interest rate. On the other hand, the monetary policy transmission which did not run effectively, caused the tight monetary policy to call for extremely high interest rate increase, which in turn had negative effects on economic recovery. When the banking and corporate sectors are weak, the interest rate increase had even more negative effects on the economy than in normal conditions[10]. Facing such a dilemma, it was difficult for Bank Indonesia to comply with the monetary policy commitment to the attainment of the pre-determined base money target.

Base money control was also difficult when base money was far below the pre-determined target, as was the case in 2002 and the first semester of 2003. The attempt to stimulate base money growth was not effective when the banking sector was weak and the risks in real sector were high. For as long as the banking intermediary function did run normally, additional economic liquidity through banks would otherwise return to the central bank. Therefore, base money performance was more affected by demand (*demand determined*) than by monetary policy instrument (*supply determined*).

In the case where the relation between base money and inflation was unclear, and Bank Indonesia faced difficulty in controlling base money behaviour directly, it was difficult to manage inflation using this kind of monetary policy framework. During the five-year period of adopting inflation targeting with base money as the operating target, inflation performance was not favourable, although government policy and exchange rate also affected CPI.

Despite the announcement made by Bank Indonesia that inflation target is the final target of its monetary policy, the prevailing monetary policy does not comply with inflation targeting framework category, because there are other *nominal anchors*. Although inflation is the main objective of monetary policy, a number of structural obstacles, such as weak fiscal and financial system conditions, often require monetary policy makers to make a trade-off between inflation objective on one hand and financial stability on other. With such a characteristic, Stone (2003) places the current Indonesia's monetary policy framework in *'inflation targeting lite'* (ITL) category. In addition to structural obstacles, countries with ITL framework are also characterised by the low com-

10. See Warjiyo and Agung (2002).

mitment to inflation target attainment and insufficient transparency of the monetary policy.

Given some weaknesses of the prevailing monetary policy framework, there are some reasons for the need to start shifting towards a clearer monetary policy and one nominal anchor. The choice is to use the exchange rate as the anchor, such as pegged exchange rate, currency board (CBS) and dollarisation, or to use full fledged inflation targeting (FFIT). The pegged exchange rate regime with all its variants has weaknesses, for it is vulnerable to speculation attacks, especially when the central bank has low credibility in maintaining a pegged exchange rate. Limited foreign exchange reserves against speculation attacks and weak banking system are the obstacles facing a central bank for maintaining the exchange rate through interest rate increase. In addition, a pegged exchange rate regime causes the central bank to sacrifice its independence for monetary policy in order to contend with cyclical state of the domestic economy. Dollarisation is not a favourable choice given that this regime imposes the replacement of the national currency. Thus, the only choice is adopting *full-fledged inflation targeting* (FFIT).

4.3 The Choice of Monetary Policy Instruments

Bank Indonesia does not have many choices of monetary instruments especially for the open market operations (OMO). This is a consequence of the absence of government debt securities and a liquid and deep market. As a result, the Bank has issued its owned securities, the SBI. There are opportunities now to use government securities for monetary policy but there are difficulties in acquiring and building the stock of these securities.

4.3.1 Main Instrument and its Evolution

Monetary policy instruments can be viewed as tools used by the central bank to achieve the operational target in order to pursue the ultimate goal. Generally, there are two kinds of monetary policy instruments: (a) direct instruments; and (b) indirect instrument. In its early development, Bank Indonesia used direct instruments such as interest rate control, credit ceiling, directed credit and monetary purge. The period includes the beginning of monetisation (1953), period of devaluation (1945-1965), economic stabilisation and rehabilitation (1965-1983), financial system deregulation (1983-1997) and financial crises (1997-2000). These instruments were accompanied by indirect instruments such as OMO,

discount facility, re-discount facility, reserve requirement and moral suasion. The New Central Bank Act No. 23/1999 has prohibited the use of direct credit as a monetary policy instrument.

At present, the main instruments of monetary policy are direct instruments such as OMO, reserve requirement in domestic and foreign currency, and foreign exchange intervention. Reserve requirement serves as a monetary instrument as well as a prudential measure. Commercial banks must maintain a certain ratio of its rupiah and foreign exchange third parties liabilities (including deposit and all liabilities that mature within 1 year). Foreign exchange intervention is intended to smooth out the fluctuations of the rupiah exchange rate and to absorb government liquidity expansion from its account in the Bank.

OMO is the selling and buying of SBIs and is conducted to manage short-term liquidity of bank reserves in order to achieve the indicative projections of base money. However, it also serves to affect the inter-bank money market – PUAB and interest rate level. The sale of SBIs (the 1-month SBI and the 3-month SBI) is conducted through two-weekly auctions, and reflects the true condition of money market liquidity. Meanwhile, buying SBIs from the market is only conducted bilaterally with banks that have short-term liquidity problems because of a mismatch in their fund management, where BI plays its role as a lender of the last resort.

FASBI is provided daily with a tenor of 1-7 days (but recently the window is open for only the O/N and 7-day FASBI) to support the regular auction of SBIs in order to manage base money and also to adjust money market liquidity and interest rate. In addition, the Bank also uses sharia type of SBIs (SWBI) that was issued to provide deposit facility for sharia banking. To support bank liquidity shortage at the end of the day, Bank Indonesia used repo facility known as SBI Repo, the of which is 100 basis points over the rate of a weighted average overnight - inter bank money market or SBI 1 month, depending on which is the highest.

Bank Indonesia has issued SBIs since 1970, which were introduced to enhance money market development at that time. Bilateral-SBI was used in OMO as a contraction instrument since February 1984 and SBPU (money market securities) as an expansionary instrument since February 1985. Later in the crisis period (from July 1998), the new-SBI was issued through auction and no longer bilaterally sold, while SBPU was no longer used.

The purpose of the new-SBI issuance was to have an OMO instrument that could reflect the real market condition in terms of liquidity and interest rate. In addition, the issuance of SBI in the crises period was to absorb the excess liquidity that could jeopardise the inflation and exchange rate. According to best practices in other countries, government bonds and T-bills are generally used as the main OMO instruments because they are less burdensome for the central bank. However, as the government bond was just introduced and the undeveloped secondary market, Bank Indonesia could only rely on SBIs as its own marketable securities.

SBIs have become the primary outlet for investing short-term excess liquidity by banks, corporations and individuals. It is acknowledged that there is a potential conflict of interest when the central bank is responsible for monetary management and is also the issuer of the monetary instrument. For example, when Bank Indonesia issues SBI to tighten liquidity, it must also bear the cost of doing so. Apart from undertaking monetary operations, the management of Bank Indonesia is required to protect its balance sheet. This may undermine the effectiveness of the central bank if it were to find itself in a position where its monetary operations started to adversely affect its own balance sheet.

The effect of SBIs issued as a single instrument, would be a deficit of Bank Indonesia's budget. The total amount of discount payment will increase significantly with a hike in SBI amount and discount rate increase, resulting in Bank Indonesia's financial condition deteriorating. To solve this problem, Bank Indonesia needs to issue government bonds, which will not only enhance OMO but also decrease the budget burden of the Bank. The other considerations for issuing government bonds include: (i) increasing the Bank's flexibility, (ii) encouraging the secondary market for government bonds, (iii) constructing a benchmark yield, (iv) asset management portfolio, (v) matching best practices in other countries in making use of the secondary market, and (vi) complying with the Treasury Act No. 1/2004 to phase out SBIs as an OMO instrument starting 2005.

The problems that come with issuing SBIs would be removed when the Bank moves to using government bonds as a monetary instrument. Bank Indonesia is now considering how and when it may use government bonds and gradually phase out SBIs. Although the government had issued a huge amount of bonds to recapitalise the banking system, it does not have stocks and until now, the liquidity of the market is still marginal. Whenever the Bank buys government bonds from the market, it contradicts the monetary policy stance in

absorbing excess liquidity, even though the government has issued Promissory Notes to the Bank, which are neither tradable nor transferable.

For optimising base money indicative projections, Bank Indonesia is moving towards implementing fine tune operations (FTO), through quick tender methods, which consists of FTO contraction and FTO expansion. To ensure the immediate effect of this instrument, FTO is transacted by a quick tender (limited window time) and a quick settlement (soon after the offering is closed). The mechanism of FTO is as follows:

(1) Government bond as contraction instrument in "Contraction Fine Tune Operation" (FTK). In preparation, the Bank will construct stock building of these bonds to use it as contraction instrument together with SBI and FASBI;
(2) Government bond as instrument in "Expansionary Fine Tune Operation" (FTE). Banks can conduct government bond-repo transaction together with SBI-Repo after fulfilling the condition of asset valuation.

Besides the two mechanisms above, the bond is used as collateral for the Bank short-term lending facility (FPJP) and intraday liquidity facility (FLI).

The Fine Tune Operation will only be conducted (through auction) if needed, with the purpose of maintaining money market stability by adjusting money market liquidity or interest rate in the very short term (1-14 days). The FTO is a non-regular OMO that is expected to give an instant effect on either base money, interest rate or any other target to be adjusted such as exchange rate. The auction methods, which use FTO, consist of fixed rate or variable rate tender depending on final target. Fixed rate tender is used to stabilise interest rate in the market and the variable rate tender is used to maintain market liquidity. The settlement method is very different from the daily operation. For the effectiveness of the market, FTO uses quick settlement with the limited time, up to one hour after announcing the winner, to settle the transactions. The transaction will be cancelled automatically by the system[11] if the fund is not available in the BI-RTGS. These special characteristics of FTO create the need for a liquid instrument in the secondary market. The secondary market for SBIs is quite liquid and well developed, while the one for government bonds is now being developed.

11. For securities settlement, Bank Indonesia uses Bank Indonesia – Scripless Securities Settlement System (BI-SSSS) and for fund settlement uses Bank Indonesia – Real Time Gross Settlement (BI-RTGS).

4.3.2 Challenges of Government Bond as Monetary Instrument

The Bank has some challenges in using government bonds as a monetary instrument such as stock building and fulfilling of necessary and sufficient conditions as the bond market is not well developed. Since the Bank only holds non-tradable Notes and does not have any tradable government bonds, it has to build some kind of government bond stock. The only alternative left is to buy them from the secondary market but as was discussed earlier, this would be contrary to the present contractionary stance of monetary policy.

Necessary conditions that need to be improved are: (i) the functioning of intermediaries such as primary dealers system, (ii) the benchmark for marked to market. Improvement in benchmarking has been achieved by the availability of the Official Closing Price (OCP) which started in mid-2004. The OCP is a useful tool for pricing and recognising the potential loss and gain of government bonds although some series are not actively traded.

There are other obstacles to overcome such as market liquidity and segmentation problem. Market liquidity as indicated by the turnover ratio is still low, although it is in the positive trend. The turnover ratio is very low in comparison with other countries which use government bonds as a monetary instrument. In addition, the segmentation problem still exists as indicated by the domination of bond ownership by a small number of recapitalised banks. As result, banks participation is marginal and room for government bonds as monetary instrument is limited only to recap-banks. Other problems in the early stage of bond market development are: (i) less market transparency, (ii) uncompleted term structure (yield curve), and (iii) the enhancement of the price information by the SRO through OTC and IDM.

One other aspect that must be considered in using government securities as a monetary instrument is the choice of a series that will respond positively to the market. In doing so, however, it may discriminate against other series. If the market has special privileges and preference for a series and thereby increasing the demand for it, the price will be boosted while the price of other illiquid series may drop significantly and or remain stagnant. In summary, care must be taken in the determining the bond series.

4.3.3 Benchmark Yield Curve

Some authorities such as Bank Indonesia, SSX and institutions such Bloomberg, and individual securities companies provide the yield curve for government bonds while the short-end curve is derived from the SBI rate. The yield curves developed by Bank Indonesia, SSX and Bloomberg have their own strengths and weakness. Bank Indonesia's yield curve is calculated based on the settlement date and data come from 147 BI-SSSS members. On the other hand, SSX's and Bloomberg's are calculated based on trading date and the source data are limited to only 22 participants.

None of the yield curves has been taken as the official one as the individual institutions has different purposes for their derivation. For instance, Bank Indonesia derived its yield curve for the valuation of the bonds for short-term liquidity facility. On the other hand, the yield curve derived by SSX and Bloomberg could be used as a benchmark or standard price.

The current yield curve is not a complete curve as there are no government bonds maturing in 3-4 years. The curve has an upward slope although in the past, it sometimes showed abnormal curves. Although it was derived from risk free assets (SBI and government bond), these two securities have different liquidity risks due to relatively undeveloped secondary market. At present, this yield curve is not used to facilitate the formulation of monetary policy as BI is not convinced that the curve can indicate market expectation of interest rate or future inflation. The Bank still relies on the various surveys conducted regularly to draw market expectations.

However, the yield curve is very important for the private sector and investors. The private sector uses it as a benchmark for the coupon rate and price when they want to issue debt instruments in the capital market. For investors, it serves as a benchmark to estimate the price of the securities. Investors consider some aspects such as country risk, credit risk, liquidity risk and settlement risk. They have preference for securities that have high yields (low price) and short-term maturities. On the other hand, the limited securities supply in the market has resulted in price fluctuation and could change the current yield curve. Therefore, investors need to update the current yield if they decide to invest or to keep the securities in their portfolio. Investors could use the yield curves derived by Bank Indonesia, Surabaya Stock Exchange (SSX) and Bloomberg as information providers for benchmarking assets.

4.3.4 The Role of Central Bank in Supporting the Bond Market

As in many other countries, the authorities have played an active role in fostering the development of a domestic government bond market, insofar as it is within their power to do so. The Bank and the Ministry of Finance have taken, or are in the process of taking, a number of initiatives including, among others:

1. The development and implementation of the BI-SSSS in 2004;
2. The facilitation of the establishment of an Inter Dealer Market for Government Bonds; and
3. The formation of the Debt Management Unit called the Center Government Bond Management (PMON or CGBM) at the Ministry of Finance.

Designed and constructed with an emphasis on operational efficiency, supported by robust risk management principles, the BI-SSSS system is arguably one of the most advanced systems of this nature in Asia. The BI-SSSS offers foreign and domestic investors safe and secure methods of settling and registering Indonesian government bonds, and allows investors to concentrate their attention on the pros and cons of investing in Indonesian government bonds, without having to add a premium for settlement risk into their considerations.

These initial steps are necessary foundations for a well functioning market, but they are not sufficient. Other actions need to be taken with the dual objectives of providing necessary infrastructure, and of increasing the confidence of market players. Amongst many of the other actions that need to be and are being taken by the authorities, the following Section presents some challenges in the developing of a deep and liquid secondary market.

5. Challenges and Strategies to Broaden the Bond Market

5.1 Factors Hindering Bond Market Development

The change in investment behaviour from holding instruments of short-term maturities to long-term maturities especially for pension and mutual funds have increased secondary market transactions. However, information on pricing and trading activity is still lacking and this lack in transparency has produced a wide spread in prices. For instance, new investors who want to invest their money find it difficult to get information on the real price and as a result, they receive a premium price that may be 100 to 200 basis points above the market price.

To increase market transparency, the SSX created the SSX – OCP (official closing price). The closing price is used as a reference mark to market and it is issued at 17.30 hours. The system accommodates the closing price for fixed and variable rate. In case the price is not available especially for illiquid bonds, it will use theoretical data. The limitation of this system is the lack of data, which is supplied by partial IGSTS members and only fractional data are published through its system. The lack of data has caused charging report, as much as .0015 basis points from the transaction amount, to participants who reported the transactions to the system and hence, not all participants report their transactions.

The repo[12] market still needs to be developed. Experience in G-10 countries show that repo transactions, lending and borrowing are essential to shore up and to increase market liquidity. The agreement known as Master Repo Agreement (MRA) is being formulated by market participants. It regulates repo transactions among the market participants. Some crucial issues that need to be formulated clearly in the MRA include the legal treatment, accounting treatment and tax treatment.

Tax treatment is an important issue. Market players prefer a special tax rate for repo and any other transaction in the primary and secondary markets. In G-10 countries, repo and other transactions are exempted from withholding and transaction taxes. To support market liquidity, tax distortions should be removed to foster the development of the repo market. Presently, every transaction including repo transaction is taxed as much as 20%.

Table 4.5: Tax Treatment in Selected G-10 Countries

	Japan	U.S.	Germany	England	France	Italy	Canada
Transaction Tax	X	X	X	X	X	X	X
Withholding Tax	O**	X	X	X	O*	O*	X

Note: x not exist; O exist: O* only to retail transaction: O** Authorised financial institutions are exempt

12. A repo transaction is a contract that exchanges securities with high creditworthiness, typically government bonds, for funds for a fixed period of time. The securities function as collateral for raising funds and the funds function as collateral for borrowing securities. Thus, market participants recognise repo transactions as a risk-free means of raising or investing funds against securities as collateral.

The other important thing is primary dealership. The roles of primary dealers are to increase secondary market transactions and to act as government counterparty when the government issues new securities in primary market. At present, the Inter Dealer Market (IDM) is a prospective candidate to be a Primary Dealer. Most of the participants in the IDM are big players in the market and their prices are often used as points of reference by other participants. Nevertheless, the price which is offered by IDM members is higher than the market price and the difference may range from 100 to 200 basis points. Hence, it has been suggested that the price is not indicative of the real price and participants prefer to do transactions with other participants rather than with IDM members. This has increased market segmentation which could obstruct future market development.

The other factor hindering bond market development is Indonesia's rating by international independent rating agencies. This rating reflects country risk and level of confidence of international investors in Indonesia's macro-economic condition. Presently, Indonesia's S&P rating of B+ represents an improvement in macro-economic recovery compared with the previous rating. Changes in rating may significantly affect bond market activity. A lower rating will usually drive foreign investors to sell their portfolio investment, and increase bond supply to the market. As a result, there may be a discrepancy between supply and demand and will affect the price immediately. The fluctuation in prices creates an unstable market and hinders bond market development.

5.2 Measure / Strategies for Developing Bond Market

The development of the bond market is a very important for increasing market liquidity. In line with increasing bond market transactions, the government finds it easier to restructure the debt maturity profile and to issue long-term bonds with maturity above 10 years. In this way, the government can lower foreign debt and find new sources of debt from domestic investors.

Decreasing market risk, increasing market transparency, developing the repo market and trading settlement infrastructure would boost market liquidity and for this reason, Bank Indonesia together with the Ministry of Finance, Capital Market Supervision, Inter Dealer Market and other market participants, have formulated the Master Repo Agreement.

An efficient trading and settlement infrastructure to support market activity has been developed by Bank Indonesia and Surabaya Stock Exchange. Currently, the Inter Dealer Market uses IGSTS for trading and uses the BI-SSSS for settlement. The IGSTS and BI-SSSS are separate systems and it is important to integrate them. Several technical aspects are being thrashed out on systems integration and communication.

The use of government bonds as a monetary instrument is being developed by BI. Presently, government bonds are used as collateral for banking which apply intraday funding facility to cover shortage of liquidity. From BI's experience, the use of government bond as a monetary instrument receives positive response from the market, improves the maturity profile and lowers monetary cost.

5.2.1 Past Effort/ Recent Initiatives

(i) Legal Framework

The Indonesian Debt Law passed by the Parliament in September 2002, regulates the issuance of T-Bills with maturities up to one year and that of government bonds. The governing Act No. 24 – 2002, is a standing appropriation to service government debt and to increase investor confidence in the government bond market. It also provides a clear role for the central bank as the agent of the government in administering government debt instruments including the central registry, paying agent, and as auction agent.

(ii) Trading and Settlement Infrastructure

The BI-SSSS was set up to lower settlement risk and to increase market activity but its role is presently limited only to providing a trading system for government issuance while trading in the secondary market uses the IGSTS. As both systems are presently independent of each other, BI and the SSX are intensively discussing ways to integrate the systems for market efficiency. The integration of the systems is to expected to be implemented in 2005.

(iii) Developing Repo Market

An efficient pricing of risk and liquidity is linked directly to the sound functioning of the secondary market. Deepening of the market and increasing liquid-

ity most often come with developing the cash, repo and forward markets. Government securities provide a mechanism for secured lending through a repo market. At present, the Indonesian financial sector in general, and the inter-bank market in particular, is fragmented by different types of institutions. Sound institutions have access to money market loans while weaker institutions are denied the opportunity. With the development of an active repo market, supported by a strong legal basis, the potential for credit risk may be reduced. This will encourage wider lending, and the easier transmission of interest rate signals. In the longer term, the repo market must not be dominated by the central bank and the Ministry of Finance but rather by the financial institutions themselves.

Having this in mind, BI is taking steps to enhance the development of a repo market. A joint committee representing BI, Inter Dealer Markets (Himdasun), Indonesian Fixed Income Dealers Association (IFIDA), and commercial banks, has been established to prepare a Master Repo Agreement (MRA) that can be used by market participants as a uniform and standard legal basis for conducting repo transactions. The MRA would be completed by the end of 2004 and implemented in the 2005, but tax issues are still intensively being discussed with the Tax Agency of the Ministry of Payment, including the possibility of tax exemptions for investors and for repo interest rate.

(iv) Government Bond as Monetary Instrument

The huge amount of government bond issuance and the resulting coupon payments, has increased money supply (base money). When the base money increases, Bank Indonesia would absorb excess liquidity through central bank bill auctions and would in turn affect BI's budget through increasing costs of discount payments for central bank bill issuance.

In its proposals to use government bonds as a monetary instrument, BI has created a special risk management unit responsible for monitoring Bank Indonesia's portfolio and examining the current price and market volatility. The new regulation, relevant to the new concept of monetary operation, has been introduced to the market and trading in the secondary market is expected to increase substantially.

5.2.2 Measures to Further Develop the Market

(i) Treasury Bills Programme

The formation of the CGBM at the Ministry of Finance makes it possible to develop a credible and transparent debt management programme as a strategic plan for the development of the primary and secondary markets. The recent passage of the Indonesian Debt Law by the Parliament in September 2002 will serve as a legal basis for the government to issue Treasury Bills. Both Bank Indonesia and CGBM are currently preparing for its issuance.

The issuance of T-Bills will serve several purposes. First, it will provide the Ministry of Finance with a market based-source of deficit finance. In addition, it will provide short-term instruments to the investing public from which the duration may be systematically lengthened. The lengthening of maturities would help to establish a yield curve from the short end. This is a more realistic approach than trying to establish a yield curve using the existing recap bonds with their longer dated maturities. The present state of the government bond market provides an indication of the difficulty that is encountered. Secondly, the government may apply proceeds raised at auction to potentially retire other longer-dated debt of the government if economic conditions warrant such action. Third, T-Bills could be used for monetary management purposes by the central bank, gradually phasing out its SBI use.

(ii) Retail Bond

To increase bond market trading, especially for individual investor, the CGBM will issue retail bonds. Its characteristics differ from current bond issues in that the retail bond will be issued in scripless form with minimum denominations of IDR 250.000 (USD 250) and the purchase is limited to only IDR 50.000.000 (USD 5000). The government proposes to issue retail bonds to increase the awareness of using bonds as investment alternatives other than time deposit or stocks[13].

13. Individual ownership for stocks has reached as much as 28%.

Individual investors may consider purchasing retail bonds if there are short-term and have high returns. Hence, the government is challenged in the near future to increase the liquidity of the retail bonds as investors will shift their portfolio from retail bonds to time deposits if the market is illiquid.

Table 4.6. Product Design

	Conservative	**Attractive**
Target Investor Type Maturity Denomination Purchase Limit Interest Rate Interest Payment Taxation Redemption	Individual Scripless 3-4 years IDR 250.000 Max IDR 50.000.000 Floating rate, SBI + 0% Quarterly 20% on interest Allowed, 1 year after issuance 2 interest installment forfeited	Individual Scripless 2-3 years IDR 250.000 Max IDR 100.000.000 Floating, SBI + 1% Monthly 20% on interest Allowed, 1 year after issuance 6 interest installment forfeited
Buyback	Possible, early buyback by the government	Possible, early buyback by the government

(iii) Islamic Bond (Sukuk)

Indonesia has a large Moslem population - about 90% of the 250 million of its inhabitants are Moslems. The government therefore, has plans to issue Islamic Bonds to diversify the Islamic portfolio which is currently not as adequate as compared to the conventional portfolio. Hence, the issuance of Islamic bond which uses a standing appropriation, is being discussed at the Ministry of Payment. The availability of Islamic bonds in the market, will increase Islamic banking activities especially in the sharia money market. For the Central Bank, Islamic bonds could be used as collateral for Islamic banks, i.e. in sharia intraday funding facility. They may also be used as a monetary instrument as part of SWBI.

The total amount of Islamic bonds which will be issued is predicted o be smaller than the current government bond issuance. This may likely result in a mismatch between the demand side and the supply side and will likely augment

the price. Consequently, most investors may hold their Islamic bond portfolio until the maturity date, likely resulting in low transactions in the secondary market. It is therefore a challenge for BI and the government to create an active and liquid Islamic bond and secondary market.

(iv) Primary Dealership

There is the potential that PDs may become an exclusive club of privileged market participants and it is essential to ensure that PDs does not become a monopolistic cartel. One way of preventing this is by monitoring PDs' performance regularly. Another way is by setting up rules and procedures to expel a non-performer while inviting a new dealer to enter. The competency of PDs should also be ensured by setting up appropriate criteria for selecting PDs. Whether or not market making should be required would have some influence on the criteria.

There are three stages in the selection of PDs. In the first stage, PD candidates are selected based on their institutional capacity and qualification. In the second stage, the selected PDs' market activities and performance are monitored and assessed against pre-announced benchmarks for a prescribed period of time. In the third stage, the selected PDs' performance is monitored: a non-performer will be expelled and replaced by the best performer among the qualified candidates who are not selected at the second stage. This contesting for entrance into this club is crucial in ensuring the competitiveness of the PD system. A PD candidate should have:

a. Adequate capital;
b. Sound financial condition in the recent past (i.e., profitable, have adequate regulatory capital, have adequate liquidity ratio, have high credit rating, etc.);
c. A dedicated trading desk for government bonds with sound front, middle and back office functions and systems (e.g., linked to BI-SSSS and BI-RTGS) and a qualified trader(s) and officers assigned to those;
d. A high competency in market and monetary research (e.g., have a research economist(s) specialising in the analysis of monetary conditions, money and debt market and interest and exchange rates);
e. Interconnection between BI-SSSS and Capital Market

To increase secondary market trading and to decrease settlement risk, the trading and settlement infrastructure must be improved. For this reason, the inter

linkage between the BI-SSSS and the capital market is essential. The linkage between these systems, between buyers and sellers in the capital market, would enable the monitoring of current settlements in the real time through BI-SSSS. This is because the transactions in the capital market will be finalised (settled)[14] at BI-SSSS, which has been integrated with the payment system, BI-RTGS. These conditions will decrease settlement risk and increase the level of confidence for investors to increase their transactions in the secondary market. In the 2005, the integration between two systems will be implemented and is expected to increase market transparency. One other focus of this programme is also to activate the retail bond market. To encourage individual investors, transaction costs should be lower than current expenditure.

6. Conclusion

The Indonesian government is anxious to see a healthy bond market develop and will therefore strengthen its fiscal policy to refinance the future sizeable maturing debt. The Central Bank is equally anxious to develop the bond market in order to have more flexibility in its monetary operations. The private sector, corporations and investors, would also benefit from a well-developed bond market, where they can raise and invest funds. With this in mind, Indonesia, through the Ministry of Finance and the Central Bank, is giving top priority to the development of primary and secondary markets for its government securities.

However, due to the relatively undeveloped state of the market, the Central Bank has yet to consider the yield curve when formulating monetary policy. There are also limitations on using government bonds as a monetary instrument because: (i) the Bank does not have stocks of government bonds, and (ii) buying bonds in the secondary market will contradict the current monetary stance.

Although key components of the required infrastructure are already in place, much work remains to be done. The regulations and infrastructure must support the investment environment not only in the primary market but also in the secondary market including the derivative market for instruments such as repurchase agreement and collateral. Four key steps have been recommended to accelerate bond market development: (i) Treasury-Bill programme, (ii) retail bond market, (iii) Islamic banking (sukuk) and (iv) interconnection between Bank Indonesia - Scripless Securities Settlement System and the Capital Market System.

14. Currently, buyer and seller, broker and primary dealer in capital market are using banks as payment agent to settle their transactions.

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Table I.1 Domestic Debt Outstanding

Year	IDR trillion	% of GDP
1996	0,6	0,1
1997	2,2	0,3
1998	2,2	0,2
1999	516,9	47,0
2000	672,2	48,4
2001	696,2	41,3
2002	670,1	35,3
2003	668,9	32,1
2004	724,7	31,5

Note:
1. Total debt includes Government Securities and Corporate Bond
2. GDP current price.
3. Government Securities as of 28 December 2004.
Source: CGBM, Bapepam, SSX, CEIC, Bank Indonesia

Table I.2.Distribution of Outstanding Government Securities by Holders

Year	Central Bank	Banks					Sub Registry	Ministry of Finance	Total
		State Own	Private	Taken Over	Regional Dev.	Non-Recap			
1999	32,2%	25,1%	31,2%	11,3%	0,2%	0,0%	0,0%	0,0%	100%
2000	34,6%	42,9%	4,9%	16,1%	0,2%	1,1%	0,3%	0,0%	100%
2001	36,3%	38,7%	6,1%	13,2%	0,2%	3,6%	1,8%	0,1%	100%
2002	35,1%	37,9%	4,6%	12,7%	0,2%	2,1%	7,3%	0,1%	100%
2003	35,1%	32,7%	3,7%	12,5%	0,3%	4,4%	11,3%	0,0%	100%
2004	37,8%	24,4%	2,8%	11,5%	0,1%	5,0%	18,3%	0,0%	100%

Note:
Central Bank holds non tradable promissory notes
Source: CGBM, Bank Indonesia

Tabel I.3. Distribution of Outstanding Domestic Bond by Major Issuers

IDR trillion

Year	Government		Private		Total	
	Nominal	Percentage	Nominal	Percentage	Nominal	Percentage
1996	0	0	0,6	100%	0,6	100%
1997	0	0	2,2	100%	2,2	100%
1998	0	0	2,2	100%	2,2	100%
1999	510,1	98,7%	6,8	1,3%	516,9	100%
2000	660,1	98,2%	12,1	1,8%	672,2	100%
2001	681,9	97,9%	14,3	2,1%	696,2	100%
2002	650,4	97,1%	19,6	2,9%	670,1	100%
2003	623,9	93,3%	44,9	6,7%	668,9	100%
2004	661,9	91,3%	62,8	8,7%	724,7	100%

Source: CGBM, Bapepam, SSX, Bank Indonesia

Table I.4. Secondary Market Liquidity

Year	Trading Value	Turnover
1997	7,3	333,7
1998	4,9	222,2
1999	4,8	0,9
2000	29,7	4,4
2001	67,4	9,7
2002	136,9	20,4
2003	348,6	52,1
2004	528,8	73,0

Note:
1. Annual trading value in IDR trillion
2.Turnover = annual trading value divided by outstanding
Source: SSX, Bank Indonesia

Table I.5. Composition of Domestic Debt Securities

IDR trillion

Year	Govt. Securities	Corporate Bond	Total
1996	0	0,6	0,6
1997	0	2,2	2,2
1998	0	2,2	2,2
1999	510,1	6,8	516,9
2000	660,1	12,1	672,2
2001	681,9	14,3	696,2
2002	650,4	19,6	670,1
2003	623,9	44,9	668,9
2004	661,9	62,8	724,7

Note:
Government Securities consist of:
(I) Non tradable promissory notes
(ii) Tradeble government bond
Sources: CGBM, SSX, Bapepam, Bank Indonesia

Table I.6. Exchange Rate

Year	1USD = IDR
1996	2.383
1997	4.650
1998	8.025
1999	7.100
2000	9.595
2001	10.400
2002	8.940
2003	8.465
2004	9.290

Source: CEIC

Table I.7. GDP - Current Price

Year	IDR trillion
1996	533
1997	628
1998	956
1999	1.100
2000	1.390
2001	1.684
2002	1.898
2003	2.087
2004	2.303

Source: CEIC, BPS

Table II.1. Financial Market Summary

IDR trillion

	1997	2003	2004
Loans (Commercial Bank Credits)	378,1	437,9	531,7
Bond Market Capitalization (Surabaya Stock Exchange)	15,2	435,9	458,1
Stock Market Capitalization (Jakarta Stock Exchange)	216,1	460,4	679,9

Source: CEIC, SSX

Table II.2 Maturity Structure of Government Securities

IDR trillion

	Mature in (years)						
Year	**1**	**2**	**3-5**	**6-10**	**11-15**	**16-20**	**21-30**
2003	33,5	22,3	102,0	130,3	184,5	36,6	144,5
2004	22,5	26,4	109,4	138,3	198,2	22,5	144,5

Source: CGBM, Bank Indonesia

Chapter 5
Development of the Domestic Bond Market and Implication for the Central Bank: Korea

by
Hee Kwon Chae[1]

1. Overview

Before the currency crisis in 1997, the Korean bond markets, in particular those for government and government-guaranteed bonds, were not well developed since the government had not run a large fiscal deficit for a long time. The corporate bond market was relatively large, but dominated by bank guaranteed 3-year corporate bonds, which were the proxy benchmark bond in the local bond markets.

Since the outbreak of the currency crisis, there have been substantial structural changes in the Korean bond market. The bond market structure, including that of the primary market, the secondary market and the market infrastructure, and especially in the case of the government bond market, have changed remarkably. In line with the active issuance of Korea Treasury Bonds (KTBs) since 1998, the Korean government has implemented various measures to develop the bond market. Also, after their introduction in late 1998, the issuance of ABSs became very popular and increased dramatically from 1999 during the process of restructuring.

Against this backdrop, the purpose of this paper is to explain the details of the recent development of Korea's domestic bond market, the constraints on domestic bond market development and some measures to overcome them and the implications of the domestic bond market for The Bank of Korea.

1. The author is Senior Economist of the Fixed Income Team at the Financial Markets Department of The Bank of Korea. The views expressed here are those of the author, and do not necessarily reflect those of the Bank of Korea.

2. Recent Developments of Domestic Bond Markets.

2.1. Types of Debt Instruments

2.1.1. Government Securities

(i) KTBs.

The Ministry of Finance and Economy (MOFE) issues KTBs based of the Government Bond Law. KTBs are sold through competitive auctions and issued in tenors of 3, 5, and 10 years. Among the different maturities, the 3-year treasury bonds are currently the benchmark bonds. The liquidity of government bonds has been enhanced remarkably, thanks to the introduction of the fungible issue system for KTBs and the consolidation of Foreign Exchange Stabilization Bonds(FESB), and Grain Fund Bonds with KTBs.

National Housing Bonds (NHBs). NHBs, which account for 22 percent(as of end of 2003) of the total amount outstanding of Korean government bonds, are issued by a non-market based method.

(ii) Monetary Stabilization Bonds (MSBs)

The BOK issues MSBs up to an amount limit of 50% of M2. MSBs are issued either as discount bonds of up to 1.5-year maturity or as 2-year quarterly coupon bonds, through competitive auctions. The BOK has issued MSBs to absorb excess liquidity generated by the Korean economy's current account surpluses.

(iii) Corporate Bonds

Corporate bonds are issued through public offering or private placement. The corporate bond market has changed from one characterised by a predominance of corporate bonds carrying bank credit guarantees to one in which non-guaranteed bonds predominate.

(iv) Asset-Backed Securities (ABSs)

Since the currency crisis in 1997, financial institutions have relied heavily on securitisation in selling their non-performing loans in effort to improve their financial

statuses. In addition, from March 2004, the Korea Housing Finance Co. (KHFC) launched Mortgage-Backed-Securities (MBSs) to float banks' mortgage loans.

2.2 Size and Structure

2.2.1 Size of the Market

The size of the bond market in Korea has grown at a rapid pace since the currency crisis in 1997. As of the end of June 2004, the total outstanding volume had more than doubled, to 648 trillion KRW from 222 trillion KRW at end-1997.

The development of the government bond markets so far has been very successful. More specifically, as of the end of June 2004, total outstanding volume of government bonds had increased to 157 trillion KRW, from 29 trillion KRW at the end of 1997.

Table 5.1: Outstanding Volume of Bonds in Korea

(As of year end, Trill. KRW)

	1997	1998	1999	2000	2001	2002	2003	2004 1H	
Government	28.5	41.6	61.2	71.2	82.4	98.3	136.8	156.9	(24.2)
(KTB)	6.3	18.8	34.2	42.6	50.9	55.6	81.5	101.6	(15.7)
The BOK	23..5	45.7	51.3	66.4	79.1	84.3	105.5	125.4	(19.4)
Financial Institution	67..3	75.0	59.3	73.0	81.0	122.8	129.2	129.0	(19.9)
Corporate	90.1	122.7	119.7	143.1	163.6	161.4	155.0	153.1	(23.6)
Agencies	9.7	56.1	81.1	86.0	113.2	107.2	87.0	80.1	(12.4)
Local Gov't	3.1	3.0	3.0	3.1	3.1	3.1	2.9	3.0	(0.5)
Total Bonds (A)	222.3	344.1	376.7	442.7	522.3	577.0	615.4	547.5	(100.0)
Nominal GDP (B)	491.1	484.1	529.5	578.7	622.1	684.3	721.3	740.0	
A/B (%)	46.1	73.5	70.7	76.5	84.0	83.4	85.3	87.5	

Note: Figures in parenthesis shows shares in the overall bond market in 2004 1H.

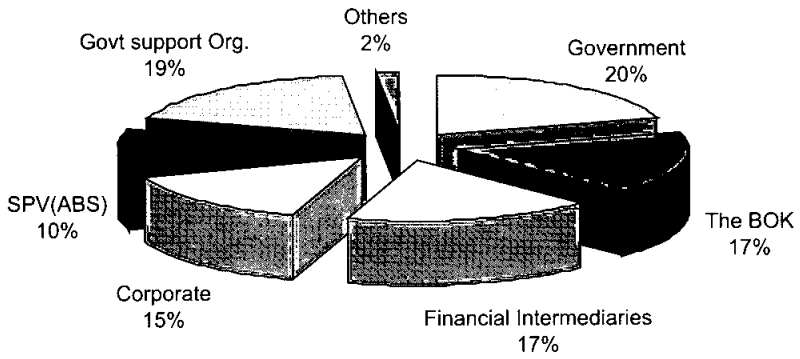
2.2.2 Issuer Characteristics

After the currency crisis, the Korean government needed to raise a huge volume of public funds for financial restructuring and boosting the depressed economy by fiscal pump priming. The aims of its strategies for developing the government bond market were two-fold: to finance the fiscal deficit at lower cost and to provide benchmark yields across a wide spectrum of maturities in order to facilitate the pricing of private debt instruments and financial derivatives.

Also, The Bank of Korea issued a huge volume of Monetary Stabilization Bonds (MSBs) to absorb the expansionary effects on the money supply of the rapid increase of its foreign reserves.

The corporate sector had to raise more funds by corporate bonds due to a credit crunch in the bank loan market, and the size of the corporate bond market grew at a rapid pace in 1998. However, the growth of the market size then decelerated remarkably and began to shift into negative territory from 1999 due to economic depression and flight to quality.

Chart 5.1
Distribution of Bonds Outstanding (as of 2003)



2.2.3 Investors Characteristics

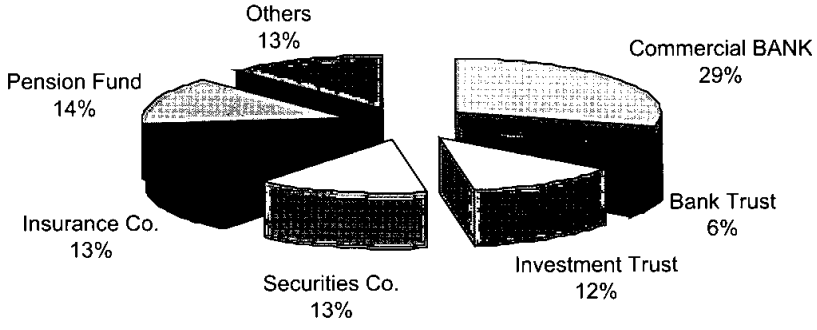
Banks are most dominant, but do not trade actively. As of the end of 2003, commercial banks held 181trillion KRW, about 29% of the total outstanding amount of bonds. More than 80-90% of the total bonds held by the banking sector are surmised to be long-term buy and hold investment. Partly, however (estimated at about 10% of their total outstanding), banks execute short-dealing to seek capital gains.

Life Insurance Companies are actively increasing the volume of their trade. The size of the Korean life insurance industry ranks seventh in the world, with annual premiums of 36,392 US$ million as of 2001. Life insurance companies are usually inclined to buy long-term bonds and then hold them until maturity in order to match the durations of their assets and liabilities.

Pension fund,, especially the National Pension Corporation, due to the increase of its coverage to the entire public, has grown rapidly since 1999. The National Pension Corporation has rapidly increased its bond investment since 2000 and has become one of the major investors in the market. Like life insurance companies, the National Pension Corporation is usually inclined to buy and hold long-term bonds until their maturities so as to match the durations of its assets and liabilities.

Investment Trust Companies (ITCs) offer stock funds, bond funds, mixed funds, and MMFs based on the "Act on Business of Operating Indirect Investment and Assets". In line with the in- and out-flows of their funds, ITCs buy and sell bonds in the market. Also, ITCs are very competitive with each other, so they are active in executing short dealings to seek capital gains.

Chart 5.2
Composition of Investors as of 2003



2.2.4 Maturity Structure

While the optimal maturity of government debt is still an open question in the academic world, many authorities believe that the maturity should be adjusted in proportion to the estimated budget deficit. The experiences of industrialised countries also justify the policy of lengthening the average maturity in the stage of a growing budget deficit, and shortening it in the stage of a deficit decline. Lengthening of the debt maturity can also ensure stability of the financial market to a certain extent.

In this context, the Korean government has needed to issue longer-term bonds to foster the government bond market. While the benchmark bonds in most developed countries are 10-year government bonds, they are 3-year government bonds in Korea. In order to lengthen the average maturity of government bonds, MOFE set the ratios of the maturities of 3-year, 5-year, and 10-year government bonds as 3:4:3 from June 2004.

Table 5.2
Average Scale of Issue of Treasury Bonds

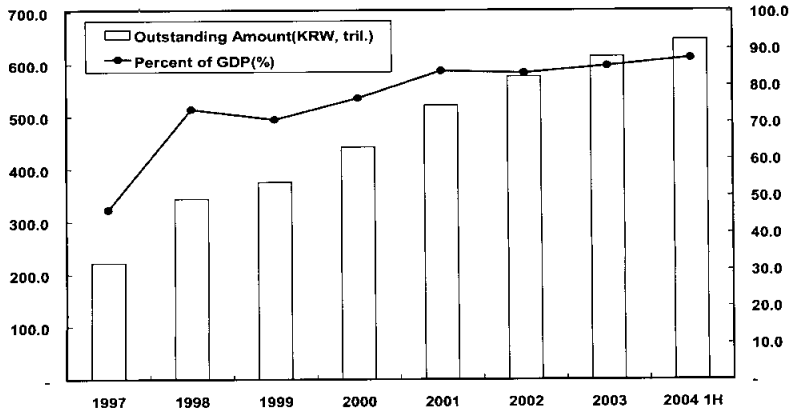
(Newly Issued basis, In billion KRW)

By maturity	1997	1998	1999	2000	2001	2002	2003
1Yr	-	27,000	46,998	33,498	-	-	-
3Yr	1,899	97,630	109,198	91,749	85,100	76,300	141,300
5Yr	-	-	30,299	18,371	87,700	55,701	122,900
7Yr	6,371	-	-	-	-	-	-
10Yr	12,500	-	-	8,000	45,500	61,500	81,000
Total	**20,770**	**124,630**	**186,495**	**151,618**	**218,300**	**193,501**	**345,200**

2.3 Primary Market

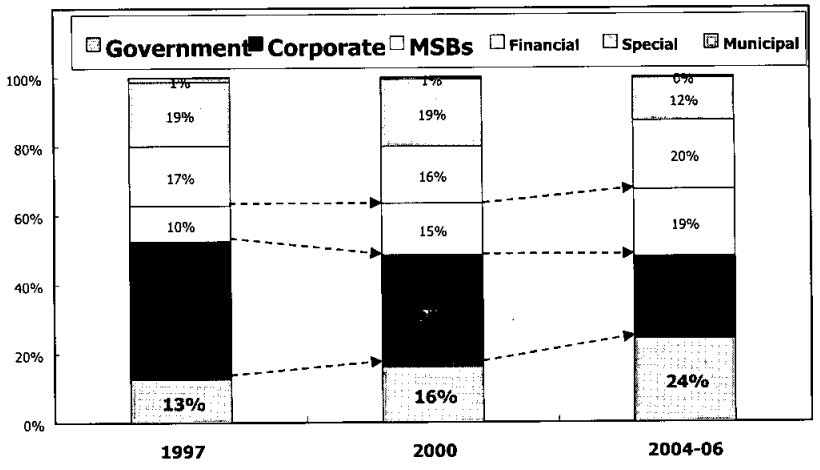
As of end October 2004, the total outstanding volume has more than doubled to 656 tril. KRW from 234 tril. KRW at end-1997. In line with this expansion of the outstanding volume, the ratio to GDP has also increased, from 46% to 88%.

Chart 5.3
Outstanding Amount of Bonds



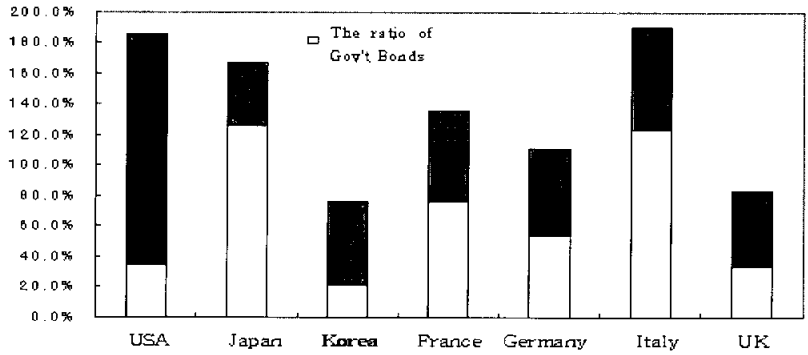
Recently, the shares of KTBs and MSBs have increased, while the share of corporate bonds has decreased due to the decline in corporate bond issuance size and flight to quality by investors.

Chart 5.4
Shares of Outstanding Volume of Bonds



However, the ratio of the outstanding amount of bonds to GDP is still low compared with those of advanced countries.

Chart 5.5
Ratio of Outstanding Amount of Bonds to GDP
(as of 2003)



The average daily trading volume of government bonds amounted to 4.8 trillion won in 2003, and the ratio of annual turnover (i.e., the ratio of annual trading in them to their outstanding volume) was 6.6. The government bond trading volume has expanded remarkably since September 1998, reflecting the massive issuance of government bond, together with the more aggressive trading behavior of financial institutions since implementation of the mark-to-market system for valuation of their assets.

The liquidity of corporate bonds remains poor compared with that of government bonds, although liquidity of corporate bonds is in general relatively lower than that of sovereign bonds even in well-developed fixed-income markets including that in the United States. Also, the corporate bond trading volume had shrunk sharply since the collapse of the Daewoo Group and the liquidity problems of ITCs in July 1999. This is in stark contrast to the remarkable growth of the government bond trading volume. The annual turnover ratio of corporate bonds has decreased sharply, from 3.7 in 1998 to 0.8 in 2003, while that of government bonds has increased remarkably from 1.6 to 6.6 over the same period.

Table 5.3: Trends of Transactions in the Secondary Market

(during, bill. KRW)

	1997	1998	1999	2000	2001	2002	2003
[Daily Volume]							
Corp. Bonds(A)	444	1,272	1,456	929	882	803	801
Gov. Bonds(B)	44	223	2,310	2,031	3,266	2,648	4,844
Total Bonds	798	2,288	4,678	6,317	9,366	7,832	12,215
A/B(%)	1,009.1	570.4	63.0	45.7	27.3	30.3	16.5
[Turnover Ratio*]							
Corp. Bonds(A)	1.48	3.7	3.6	2.1	1.7	1.2	0.8
Gov. Bonds(B)	0.6	1.6	11.3	8.6	11.7	7.4	6.6
A/B(%)	2,466.7	231.3	31.8	24.4	14.5	6.2	12.1

* Annual trading volume/outstanding volume at the end of each period

3. Bond Market Infrastructure

3.1 Regulatory Framework

The Financial Supervisory Commission (FSC) and its executive arm, the Financial Supervisory Service (FSS), which was formed by consolidating the earlier four financial supervisory institutions in 1998, is a unified financial supervisor for all financial institutions. The FSC's duties include enforcing and rectifying supervisory rules, authorising business activities, and overseeing the operations of financial institutions.

In addition to the FSS, the Securities & Futures Commission (SFC) was set up under the FSC to oversee the securities and futures markets. The SFC work to prevent insider trading and market manipulation in the securities and derivatives markets. It also oversees accounting standards, audit reviews, and regulatory and supervisory matters related to the securities and futures markets for the FSC.

In the past, there seemed to be a possibility that large players could influence the market. Recently, however, as the market surveillance function has developed,

there is less possibility of unfair transactions. Basically, designing an efficient framework for market surveillance cooperation between the government and the central bank is essential for maintaining fair investment conditions and further developing the government bond market.

3.2 Settlement and Clearing System

For Clearing and settlement of government bond transactions, securities are settled through securities accounts in the Korea Securities Depository (KSD) and funds are transferred through BOK accounts via BOK-Wire on the same day.

A Delivery versus Payment (DVP) system was introduced in November 1999 in order to reduce the settlement risk in bond transactions. The concept of settlement risk had not even existed before the financial crisis in Korea. Since the government had implicitly guaranteed each individual financial institution's credit, regardless of its financial status, the default risk of a financial firm had been regarded as zero. However, after facing many cases of bankruptcy and business suspensions, market players started to take settlement risk into account seriously.

Since June 2003, after changing the minimum settlement period from T+0 to T+1, the settlement of bond transaction via the DVP system has rapidly increased. Currently, most bond transactions are settled via the DVP system.

Table 5.4: Bond Market Settlement Style

(during the year, in trillion KRW)

	2000	2001	2002	2003	2004.1-9
Total Transaction Volume(A)	1,850.9	2,756.3	2,153.8	2,460.0	2,131.1
DVP Settlement(B)	121.6	498.7	693.0	1,507.1	1,168.0
B/A(%)	6.6	18.1	32.2	61.3	54.8

3.3 The Role of Rating Agencies

The vast majority of corporate bonds issued before 1998 were guaranteed either by a third party (such as a bank) or by collateral, so credit rating agencies were not so important until that time. With the increased issuance of non-guaranteed bonds after the currency crisis in 1997, the importance of bond rating systems has increased.

Three credit rating agencies were established during the 1980s: Korea Ratings, Korea Investors Service and National Information and Credit Evaluation Inc. The establishment of one additional credit rating company was permitted in January 2000 when, due to the rapid increase in issuance of ABSs, the government designated Seoul Credit Rating and Information, Inc. to specialise in the credit rating of ABSs and CP only.

Currently, Korean securities regulations require that all public issues of non-guaranteed corporate debentures have credit ratings from two rating agencies. Meanwhile, measures have been taken to improve the quality of services provided by existing credit rating agencies, by intensifying the competition among them. In August 2000, the government introduced a system for the regular evaluation of credit rating agency performance by the Korea Investment Trust Companies Association (KITCA). In addition, the Financial Supervisory Service (FSS) periodically inspects credit rating agencies by comparing actual default rates by credit grade with the credit ratings provided by each credit rating agency, and it restricts within a certain scope the business activities of those agencies showing poor performance on the basis of this inspection.

4. Domestic Bond Market and Central Bank Policies

4.1 Fiscal and Monetary Policy Coordination

In a situation in which the BOK implements open market operations through the financial markets and the MOFE issues government bonds, coordination between fiscal and monetary policies is important. In Korea, the MOFE announces the KTB issuing schedule at the beginning of the year and at the end of each month announces the issue size and auction schedule for the ensuing month. Exceptionally, KTB issuance for foreign exchange stabilisation can be done at any time, in line with the exchange market situation.

Table 5.5: Main Characteristics of Korean Credit Rating Agencies
(As of the end of 2003)

	Korea Ratings	Korea Investors Service	National Information & Credit Evaluation, Inc.	Seoul Credit Rating & Information Inc.
Date of Establishment	Dec. 1983	Feb. 1985	Sep. 1986	Apr. 1992
Capital Stock (bil. KRW)	24.3	5	23.7	10
Major Share-holders	Hanil Cement, Fitch	Korea Information Service, Moody's	Local Banks -holders	Small Share
Collaboration with Foreign institution	Fitch IBCA	Moody's	R & I	-

Basically, since the KTB issue size is decided by the fiscal demand in the various government departments, the concentration of issuance could bring about disequilibrium between supply and demand in the bond market. As an example, during the 4th quarter of 2003, due to the increase of the KTB issue size, market interest rates soared. On the contrary, during the 1st quarter of 2004, market interest rates declined when the KTB issue size decreased.

The Bank of Korea adjusts the overnight call rate as its principal monetary policy for influencing long-term interest rates, and through this transmission channel it tries to achieve its goal by influencing the real economy. However, in a situation in which long-term interest rates are influenced by the size of government bond issuance, it comes to have difficulties in implementing monetary policy.

In this respect, building up cooperative coordination between the central bank and the government including the sharing of information concerning the financial market and fiscal conditions is indispensable.

4.2 Objective and Strategy for Monetary Policy

The BOK takes price stability as the most important objective of its monetary policy. The Bank of Korea Act prescribes that the BOK shall set a mid-term inflation target and strive to achieve that target. Inflation targeting was officially adopted in accordance with the revised Bank of Korea Act, which came into effect on April 1, 1998. The BOK determines an inflation target on a mid-term basis and a call rate target on a monthly basis. The decision-maker is the Monetary Policy Committee, the supreme policy setting body of The Bank of Korea. From early 1999, the position of the overnight call rate as the monetary policy operating target was consolidated. Furthermore, a specific figure for the overnight call rate began to be suggested as a target from May 1999 onwards.

The development of financial markets, especially the bond market, is essential for the transmission of monetary policy. The effectiveness of the interest rate channel depends largely upon the responsiveness of short- and long-term market interest rates, as well as banks' lending and deposit rates, to the policy rate most directly influenced by the central bank. As the short- and long- term financial markets develop, and are closely interlinked with each other, the interest rate channel can play its role more effectively. It is recognised that monetary policy effects are transmitted to the real economy through this interest rate channel by changes in short-term market interest rates first, followed by businesses' decisions about investment spending in response. For instance, the effects of a contractionary monetary policy take place in two stages. In the first stage, the central bank raises the short-term nominal interest rate by reducing the supply of money and liquidity. The expectations hypothesis of term structure suggests that the higher real short-term interest rate trend leads to a rise in the real long-term interest rate. In the second stage, these higher real interest rates lead to reductions by businesses in their fixed investment and inventory investment, and in consumer expenditures, which result in a decline in aggregate demand.

In Korea, despite steady improvement of the bond market system, until the first half of the 1980s open market operations remained limited to serving as a tool to supplement the control of domestic credit and the adjustment of liquidity via the Monetary Stabilization Account. Additionally, banks were still the main object of operations. In view of these conditions, virtually no great progress in open market operations had been achieved. In September 1986, the BOK selected seven short-term finance companies and ten securities companies as its open market counterparts. Thus, a framework was put into place for the full-scale

launch of open market operations. In a parallel move,. the method of issuing MSBs was improved, from the previous focus on direct sales to a form of underwriting by counterparts. From February 1997, moreover, bonds unsuccessfully bid upon at auctions for sales of RPs or issuance of MSBs were no longer absorbed by direct sales to financial institutions. With this, the conversion of open market operations to a fully competitive method of bidding was effectively completed.

In order to facilitate the interest rate channel, the increased width and depth of the financial market now call for a new relationship between the central bank and the financial markets. In the past, the central bank unilaterally led financial firms through administrative regulation. In a market-friendly environment, however, the relationship is being transformed into something like a partnership. Here "expectations" come to play an important role, particularly in the long-term bond market. The central bank influences the expectations of the market, and in return the market causes its own expectations to be reflected by the central bank. This is a kind of feedback relationship, which allows more advanced and market-friendly conduct of monetary policy.

4.3 The Choice of Monetary Policy Instruments

In implementing its monetary operations, the Bank of Korea essentially uses three orthodox instruments, namely, lending policy, reserve requirement policy and open market operations.

4.3.1 Lending Policy

The Bank of Korea either rediscounts bills that banks have received from corporations in return for loans, or itself extends loans to banks against the collateral of eligible securities. Securities classed as eligible for collateral comprise credit securities (including bills eligible for rediscount), Treasury bonds, government-guaranteed bonds and MSBs. Under the regulations, the lending facilities of The Bank of Korea available to financial institutions consist of Aggregate Credit Ceiling Loans, Liquidity Adjustment Loans, Loans to Meet Temporary Shortages of Funds, Intraday Overdrafts and Special Loans.

4.3.2 Reserve Requirement Policy

The financial institutions subject to reserve requirements consist of commercial banks, special banks and Korea Development Bank. The Bank of Korea Act

stipulates that each financial institution to which the Banking Act applies must deposit a certain ratio of its deposit liabilities as reserve requirements in its account with the BOK.

4.3.3 Open Market Operations

One major task of open market operations is adjusting banks' reserves in order to keep the call market rate in line with the target rate that has been decided by the Monetary Policy Committee. The call market is the market in which funds are traded over the shortest periods (typically overnight) to adjust temporary surpluses or shortages of funds among financial institutions. The Bank of Korea can influence the call market directly through open market operations. When the Bank supplies or withdraws liquidity, the total volume of reserves placed in bank's accounts with The Bank of Korea changes and, at the same time, banks attempt to resolve their shortages or surpluses of funds through the call market. This brings about changes in the call rate.

There are two types of open market operations: issuance of MSBs and transactions in securities. MSBs, issued only by the Bank of Korea, originated as a major tool of monetary policy during the period when the volume of government and public bonds essential for open market operations remained insufficient. These central bank obligations have relatively long maturities, and once issued they are not, in principle, redeemable prior to maturity. Thus, they are used as a major structural adjustment tool whose policy effects are long lasting. Currently, the ceiling on the volume of MSBs that may be legally issued is set at 50% of M2. MSBs are issued in 11 different maturities ranging from 14 days to two years (MSBs comprise discount bonds, with maturities of 14 days, 28 days, 63 days, 91 days, 140 days, 182 days, 364 days, 371 days, 392 days and 546 days, and coupon bonds with maturities of 2 years).

Recently, the KRW has been appreciating vis-a-vis the US Dollar due to the constant inflow of foreigners' portfolio investments and the current account surplus

Table 5.6: Outstanding Amount of MSBs

(tril. KRW)

1997(a)	2000	2001	2002	2003	2004.9(b)	b-a
23.5	66.4	79.1	84.3	105.5	124.7	101.2

in the balance of payments. This led The Bank of Korea to issue MSBs to absorb excess liquidity. As a result, there has been a remarkable increase in the outstanding volume of MSBs.

Viewing the maturities of MSBs issued, as of the end of October 2004, MSBs with maturities of two years accounted for 67.9% in value terms, followed by those with maturities of 364 days (11.5%).

Table 5.7: Volume and Maturity Composition of MSBs
(as of end of Oct. 2004)

(bill. KRW)

91 days	182 days	364 days	546 days	2 years	total
6,000	6,454	14,595	13,820	86,435	127,304
(4.7)	(5.1)	(11.5)	(10.9)	(67.9)	(100.0)

Note: 1) Figures in parentheses refer to shares by total outstanding amount (%).

Next, securities transactions are employed to supply or withdraw funds through the sale and purchase of government and public bonds. Securities eligible for use in such transactions are confined to government bonds, government-guaranteed bonds, Land Development Bonds and MSBs.

Table 5.8: Securities Eligible for Use in Open Market Operations

	Outright Transactions	RP Transactions
Eligible Securities	Government bonds Government-guaranteed bonds Land Development Bonds[2)]	Government bonds MSBs[1)] Government-guaranteed Bonds Land Development Bonds[2)]

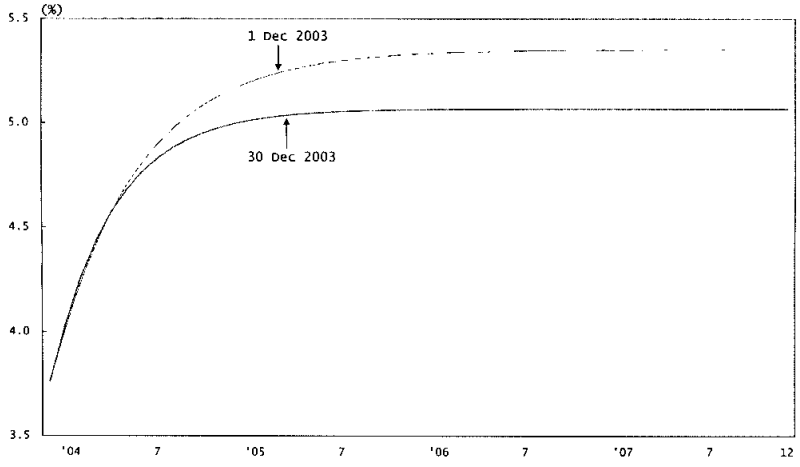
Notes: [1)] Limited to RP purchases.
[2)] Limited to bonds issued in relation to the redemption of corporate debt to financial institutions in compliance with Clause 4, Article 12 of the Korea Land Development Corporation Act.

4.4 Benchmark Yield Curve

Given the recent development of the government bond market, the benchmark yield curve can be derived from KTBs, but not from all tenors. The issuing maturities of KTBs are 3, 5 and 10 years, and transactions in KTBs with remaining maturities of less than 1 year are not active, so there is poor interpolation for tenors from 1 day to 1 year.

The Bank of Korea derives the benchmark yield curve using 15 risk-free bonds including KTBs and MSBs. While the benchmark yield curve should be derived from default-free government bonds, it is derived by 2 kinds of bonds in Korea because of the above-mentioned inactivity of transactions in KTBs of less than 1-year maturity. Through the derived benchmark yield curve, it is possible to derive the forward implied rates. In order to formulate the implied forward rates, the BOK uses Svensson's model ("Estimating Forward Interest Rates with the Extended Nelson & Siegel Method", 1995). From this model it is possible to formulate the call rate which is expected by market participants using the implied forward curve. This forward call rate is strictly interpreted as one of many information variables.

Chart 5.6
Implied Forward Call Rate



4.5 The Role of Central Bank in the Bond Market

The BOK has made many contributions to the development of bond markets in Korea. One major contribution has been conducting its monetary policy through open market operations by means of MSBs issuance and securities transactions. One important consideration in conducting market-oriented monetary operations is how best to reinforce any influence that liquidity adjustments of the central bank may have on interest rates through specific mechanisms vis-a-vis market participants. In this respect, the BOK pays close attention to the market signaling effect of its monetary operations. The BOK tries to disclose all relevant information about the details of its monetary operations on a timely basis to enhance its monetary policy transparency.

In addition, the BOK carries out open market purchases and sales of government bonds, government-guaranteed securities and other securities of types specified by the Monetary Policy Committee. For instance, when the Daewoo Group, the third largest chaebol, collapsed in July 1999, domestic ITCs experienced large losses associated with their holdings of dishonored bonds issued by the Daewoo Group. Consequently, there was a huge withdrawal of funds from ITCs, causing severe liquidity problems and a bust of the corporate bond market. In an effort to stabilise bond yields, the BOK purchased one trillion won worth of government bonds in its open market operations in Nov. 1999.

The BOK also issues a huge volume of MSBs to absorb the expansionary effects of the rapid increase of the nation's foreign reserves. It also operates the electronic bidding system used for KTB auctions, which is a sub-system of BOK-Wire, which the BOK manages and which is itself a sub-system of the DVP system for clearance and settlement.

The BOK shapes the money market in order to support development of the bond markets. In July 2004, the BOK introduced the KORIBOR (Korea Inter-bank Offered Rate), the Korean version of the LIBOR, to enhance money market liquidity. The KORIBOR is expected to be used as a reference rate for transactions in financial derivatives and floating-rate loans in the near future.

4.6 Views on Asset Backed Securities

Since the currency crisis in 1997, Korean financial institutions have relied heavily on securitisation in selling their non-performing loans in efforts to improve

their financial statuses. This securitisation of non-performing bank loans has contributed substantially to the development of domestic bond markets. Around 40.7 trillion KW of ABSs were issued by banks and ITCs from January 1999 to June 2001.

Also, credit card companies and factoring companies securitise not only existing card loans but also future receivables. They also introduce more advanced products such as structured ABCP, whose cash flow are much more complicated. These new instruments make the bond markets more sophisticated and diverse.

The Mortgage-Backed Securitization Company Act was passed in January 1999, to promote mortgage-backed securitisation. Under this Act, Korea Mortgage Corporation (KoMoCo) was established as the sole issuer of MBSs in Sep. 1999, with equity subscribed by government and financial institutions, and MBSs began being actively issued from April 2000. In 2004, the Korea Housing Financing Corporation (KHFC), which was established to help develop the long-term housing market and took over KoMoCo. The issue size of MBSs in 2004 is about 3 trillion KRW.

5. Challenges and Strategies for Developing a Well-Functioning Bond Market

5.1 Factors Hindering Bond Market Development

The development of the bond markets has focused mainly on development of the primary market. Efficiency of the secondary market remains poor, however, because of listless market-making activities, less than fully transparent brokerage styles, etc.

First of all, the major impediment to development of deep and liquid bond markets is the absence of true dealers in the sense of market makers. Most bonds including government bonds, are traded by securities house intermediation in the OTC market. In the intermediation process, securities houses simply match the orders of their clients including institutional investors, without taking any bond positions onto their own books. Therefore, their intermediation is limited to brokerage. Primary dealers have the obligation of market making for governments bonds, but they do not observe this obligation due to their concerns about the capital losses involved in market making activities.

In addition, no dealers including primary dealers provide two-way quotations on bonds. The absence of bid-ask price quotations makes the price discovery function of the market inefficient. Also, the fact that dealers' businesses are based on personal networks maintained by using the telephone hinders the development of a screen-based, de-personalised brokerage business. Therefore, it seems clear that the prevailing practices in the brokerage business can hardly ensure transparency of the market.

5.2 Measures/Strategies for Developing Bond Market

5.2.1 Past Efforts/Recent Initiatives

(i) The Primary Market

The government introduced a primary dealer (PD) system for KTBs in October 1998. Subsequently, it brought in a regular auction schedule and decided to announce the details of the schedule in advance. PDs have certain privileges and obligations. The former include the exclusive rights to bid at government bond auctions and to enter non-competitive bids and exclusive access to dealer-financing provided by the Korea Securities Financing Company. Their obligations include meeting a 2 percent minimum underwriting requirement, providing two-way quotes on government bonds with a minimum volume and maximum spread in the KSE electronic trading system, meeting a 2 percent minimum secondary market trading between dealers in all government bonds, and providing daily information about their proprietary and own account trading and about market conditions and market preferences to the authorities.

In addition, in an attempt to strengthen the liquidity of government bonds, different types of government debt instruments, Grain Fund Bonds (in Jan. 2000) and Foreign Exchange Stabilization Bonds (FESBs) (in November 2003) were integrated into KTBs.

In order to increase the size of each issue of KTBs by reducing the number of KTB series, and to enhance the liquidity of bonds targeted as benchmarks, a fungible issuance or reopening system was introduced in May 2000. Also, in order to prevent the possibility of occurrence of the winners' curse problem, the auction procedure was changed from an American type auction to a Dutch type auction in August 2000. Finally, in an effort to lengthen the average KTB maturities, the government decided to stop issuing those with 1-year maturities

in July 2000 and, subsequently, to start issuing KTBs with maturities of 10 years in October 2000.

(ii) The Secondary Market and Market Infrastructure

An electronic trading platform for government bond dealers was established ay the KSE in March 1999 in order to support their market-making function for government bonds. Also, in September 1999, KTB futures contracts were listed on the Korea Futures Exchange (KOFEX) in order to provide hedging instruments for KTB investors. The prices of the KTB futures are based on a hypothetical 3-year KTB with an 8 percent coupon estimated by a basket of 3 existing KTB issues. Two contracts, with maximum maturities of 3 months and 6 months, are listed on the KOFEX. KTB futures contracts are cash-settled against the average yield of the basket previously declared by KOFEX.

In addition, in an attempt to reduce the settlement risk associated with bond transactions, the DVP system was introduced in November 1999 with the on-line link-up of computer systems between The Bank of Korea and the Korea Securities Depository, the country's central securities depository.

In an effort to invigorate the secondary market and improve the transparency of trust fund management, mandatory application of the mark-to-market accounting principle bond funds held by collective savings institutions, including investment trust companies (ITCs) and bank trust accounts, was implemented following a step-by-step approach from November 1998, with full implementation completed in July 2000. Also, private bond pricing agents were established to supplement more accurate mark-to-market valuation in June 2000.

5.2.2 Measures to Further Develop the Market

For further development of the bond market in Korea, the liquidity of government bonds needs to be expanded in the secondary market, and the investors, including foreign investors, need to become more diversified. In order to achieve these two goals, the next reform should focus on developing more efficient market-making intermediation in the secondary market and enhancing market transparency. It is recommendable that the number of PDs be reduced, that PDs' obligations to undertake market-making in the secondary market be heightened and that the privileges of primary dealership be strengthened.

Table 5.9: Number of PDs to Gov't Bonds Volume (end of 2003)

(Billion USD)

	USA*	UK	France	Canada	Nethelands	Korea**
Volume of Gov't Bonds(A)	3,755.3	510.2	1,030.3	517.2	256.3	127.9
No. of PDs(B)	22	16	18	23	13	22
A/B	170.7	31.9	57.2	22.5	19.7	5.8

* Jun. 04, ** Oct. 04, Source : BIS, IMF, Bond Market Association

Concerning the diversification of hedging instruments, elimination of withholding tax on interest earnings from bond investment should be considered in order to activate the repo market, as withholding taxation is one of the major impediments to active short selling of bonds involved in repurchase agreements, because of the complicated problem of tax payment among the parties involved in the transactions. In the interest rate futures market, meanwhile, a range of maturities should be listed on the KOFEX, including 10-year KTBs.

In addition, to broaden the investor base for corporate bonds for increasing corporate bond liquidity, it is necessary to lessen the investment risk on corporate bonds. The institutional conditions for investor protection on non-guaranteed corporate bonds remain very poor. There is no practice of inserting protective bond covenants to safeguard the interests of corporate bondholders against deterioration of issuers' ability to repay interest and principal. Historically, credit ratings provided by local credit rating agencies are not very reliable.

Table 5.10: Historical Default Rates by Credit Rating (from 1993 to 2003)

AAA	AA	A	BBB	BB	B
0.00%	0.41%	1.40%	1.36%	4.75%	8.62%

6. Conclusion

As mentioned earlier, the development of the bond market in Korea so far, has been quite successful. In particular, the primary market for KTBs has been very active. However, it should be emphasised that this successful development of the KTB market reflects to a large extent the presence of a couple of favourable external factors. The first external factor was the trend of declining interest rates during the period of implementation of the bond market development strategies. Downward moving interest rates have attracted more funds to investment in fixed-income securities. The second external factor has been the prevalence of a "flight-to-quality" phenomenon, reflecting a combination of the increasing credit risk in the corporate sector in general during the process of corporate restructuring and the very conservative lending behaviour of financial institutions during the process of financial sector restructuring.

In view of the fact that these one-off factors favourable to development of the Korean bond market are unlikely to be sustained, greater efforts for further bond market development need to be exerted while the environment remains favourable, to prepare for circumstances in which this may change. As there is not much scope for further improvement in the primary market since implementation of the comprehensive reform measures ("Plan for Modernizing Bond Market") in May 2000, more effort should accordingly be focused on improvement of the secondary market. Therefore, the goals for the next reform should be to expand the liquidity of bonds in the secondary market and to diversify its investor base, including promotion of more active participation by foreign investors. In order to achieve these goals, the directions which the next reform should focus on include developing more efficient market-making intermediation in the secondary market; enhancing transparency in the secondary market; establishing a sound, safe market infrastructure; and diversifying hedging instruments.

In the view of a central bank, because the bond market is a principal monetary policy transmission channel, development of the bond market is important for implementing monetary policy. In line with this, the central bank should not neglect market vigilance and keep transparency in terms not only of its operations but also of its objectives.

Appendix 5.1: Bonds Outstanding

USD billion	1996	1997	1998	1999	2000	2001	2002	2003
outstanding	241.9	237.9	240.5	316.2	380.1	388.7	435.3	481.4
Nominal GDP	557.4	516.4	346.1	445.2	511.8	482	546.9	605.2
Percent of GDP(%)	43.4%	46.1%	69.5%	71.0%	74.3%	80.6%	79.6%	79.5%

Appendix 5.2: Bond Types

(billon $)	1996	1997	1998	1999	2000	2001	2002	2003
Government Bonds	31.8	30.0	29.7	51.5	63.0	63.8	78.6	113.9
Municipal Bonds	3.5	3.3	2.1	2.5	2.7	2.4	2.5	2.4
Financial Debenture	40.5	41.0	30.6	29.8	32.2	26.0	39.3	44.8
Special Bonds	40.3	44.3	57.7	88.4	96.9	108.5	118.6	101.7
Corporate Bonds	94.8	94.7	87.7	100.6	126.6	126.7	129.0	130.0
MSB	31.1	24.7	32.7	43.3	58.7	61.3	67.4	88.5
Total	241.9	237.9	240.5	316.2	380.1	388.7	435.3	481.4

Appendix 5.3: By Holder or Investor

USD billion	2001	2002	2003
Banks	123.9	147.1	151.4
Bank Trust	36.9	37.6	30.1
ITCs	66.9	70.4	63.7
Securities Corp.	43.2	54.8	68.5
Insurance Corp.	25.4	53.2	66.3
Pension Funds	46.9	53.1	73.8
Etc	66.6	72.6	64.9
Total	409.8	488.7	518.6

Appendix 5.4: Secondary Market Liquidity - Gov' Bonds

Secondary Market Liquidity - Gov' Bonds (	1996	1997	1998	1999	2000	2001	2002	2003
Annual trading volume(A)	4.0	16.7	32.9	331.5	508.2	744.8	581.7	829.0
Outstanding (end of year, B)	31.8	30.0	29.7	51.5	63.0	63.8	78.6	113.9
Turnover ratio (A/B)	12.7%	55.8%	110.6%	644.3%	807.0%	1166.7%	740.4%	727.6%

Appendix 5.5: Secondary Market Liquidity - Corp's Bonds

Secondary Market Liquidity - Corp' Bonds (	1996	1997	1998	1999	2000	2001	2002	2003
Annual trading volume(A)	40.1	140.1	272.8	367.3	240.8	203.4	176.4	135.6
Outstanding (end of year, B)	94.8	94.7	87.7	100.6	126.6	126.7	129.0	130.0
Turnover ratio (A/B)	42.3%	147.9%	311.0%	365.0%	190.3%	160.5%	136.7%	104.3%

Chapter 6
Development of Domestic Bond Market and Its Implications for the Central Bank: Malaysia

by
Beh Cheng Hoon[1]

1. Overview

The bond market in Malaysia has developed significantly in terms of market size, range of instruments and efficiency. The development of the bond market centres on the need to establish a well-diversified financial base to meet the changing needs of the Malaysian economy. In the mid-1980s, the private sector began to assume a greater role in economic growth, while the public sector continues to provide active support for the development process. The Government's privatisation programme was increased in the 1990s to cover projects in the infrastructure, utilities and transport sectors. With the escalation of these activities, the need to develop the domestic bond market became necessary to ensure that the private sector could have an alternative source of financing, apart from borrowing from the banking sector.

The Asian Financial Crisis had underscored the importance of having a good mix between bank lending and bond financing in the financial system. The lack of depth in the bond market was identified as one of the main factors causing risks to be concentrated in the banking system. The concentration of risks in the banking system increased financial system vulnerability and risks. Recognisng the urgency to accelerate the growth of the bond market, the Government took concerted measures to develop the domestic bond market in order to correct this source of vulnerability in the fiinancial system. Success of these measures is reflected in the more diversified risk structure of the domestic financial system. As at end 2004, the share of bond financing has increased to 23.7% of total debt financing from 9.1% in 1996, while the share of loans financing has declined to 76.3% from 90.9%.

From the fiscal point of view, a well-functioning domestic bond market enables the Government to source non-inflationary domestic funding efficiently for budget deficit without exposing to foreign exchange risks. The relatively developed domestic bond market has enabled the Government to source the bulk of its

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funding needs domestically. In Malaysia, over 80% of the total public debt is in the form of domestic funding. From the monetary policy aspect, the bond market facilitates monetary policy implementation, enables the use of market-based indirect monetary policy instruments, and provides information on market expectations on future direction of interest rates. From the macroeconomic perspective, the development of the bond market improves corporate governance and indirectly efficiency in the economy. The bond market, which provides unbiased price mechanism, puts pressures on issuers to improve their corporate and financial profiles as failing to adhere to good governance would be penalised by the investors.

2. Recent Developments of Domestic Bond Market

In Malaysia, the debt securities market comprises the Government securities market and the private debt securities (PDS) market. In the early stage of bond market development, the Government securities market essentially dominated the Malaysian debt securities market, as the PDS market was practically non-existent, accounting for only 1% of the Malaysian bond market. As a result of the Government initiatives to promote the private sector as the principal engine of economic growth, ensure a healthier Government's fiscal position, and the need to meet the massive long-term financing needs to private sector, the bond market has now transformed to a more balanced mix of public sector and private sector bonds.

2.1 Size of the Market

The size of the bond market tripled from RM119 billion in 1996 to RM363 billion or 81.1% of GDP in 2004. During the Financial Crisis, a larger volume of Malaysian Government Securities (MGS) was issued to finance the fiscal deficits. Total MGS outstanding amounting to RM154.4 billion, accounted for 42.5% of total bond outstanding, representing 34.5% of GDP (as at end 2004). The large issuance size of MGS augured well with the Government's initiatives to create a benchmark yield curve for the private sector.

More significantly, the private sector bond recorded considerable growth with the size of the private sector bonds outgrowing the public sector since 1999. As at end 2004, the private sector bonds accounted for 51.7% of total bond outstanding. Today, the corporate bond market makes up approximately a quarter of the total debt financing (including bank loans) in the economy compared with

around 10% in 1997. Such rapid growth is a reflection of the expanding private sector financing needs, especially the considerable infrastructure development needs in Malaysia, which require more long-term financing, have provided a strong impetus to the market.

2.2 Types of Instruments

The Malaysian bond market offers various types of securities with different tenures and maturities, and could be categorised into the conventional segment and the Islamic segment.

Issuer	Conventional	Islamic
Malaysian Government	■ Malaysian Treasury Bills - Short-term securities with tenure of 3, 6 and 12 months - Issued on a discounted basis. ■ Malaysian Government Securities (MGS) - Long-term securities with tenure of 3, 5, 10 and 15 years. A 20-year MGS will be issued in 2005. - Issued for financing Government development expenditure. - MGS accounted for the largest share of Government long-term securities (94.4% as at end-2004). MGS are actively issued and managed for the development of benchmark yield curves.	■ Malaysian Islamic Treasury Bills - Short-term securities introduced since 2004 - Issued on a discounted basis. ■ Government Investment Issues (GII) - Long-term securities with tenure of 3, 5 and 7 years. A 10-year GII will be issued in 2005. - Issued for financing Government development expenditure. - The issuance of GII will be enhanced in order to establish an Islamic benchmark yield curve for Islamic securities.

Issuer	Conventional	Islamic
Bank Negara Malaysia	■ Bank Negara Bills - The Bank's short-term securities issued for open market operation purposes.	■ Bank Negara Notes - The Bank's short-term securities issued for open market operation purposes. ■ Merdeka Savings Bonds The Bank's long-term non-tradable retail bonds issued with the purpose of providing an alternative investment instruments to senior citizens, Malaysian armed forces personnel who are on retirement, and citizens who have retired on medical ground
Quasi-government		Khazanah bonds ■ Issued by Khazanah National Berhad, an equity investment vehicle of the Government. The bonds are guaranteed (aggregate guarantee up to RM10 billion) zero-coupon Islamic bonds.
Corporations	■ Cagamas bonds and notes - Issued by Cagamas Berhad, the National Mortgage Corporation, which was established in 1986 to support the national homeownership policy. Cagamas purchases housing loans from financial institutions and securities the loans. - Cagamas bonds accounted for 14.3% of total private sector bonds.	■ Cagamas Islamic bonds such as Sanadat bonds

Issuer	Conventional	Islamic
	■ Danaharta bonds - Issued during the Financial Crisis to acquire and manage the non-performing loans of affected banks. - With the bank restructuring process on track, the Danaharta bonds outstanding have declined from RM11 billion in 1998 to RM796 million as at end 2004.	■ Danamodal bonds - Issued during the Financial Crisis to recapitalise the banking institutions. - The bonds were fully redeemed with the completion of banking institutions restructuring process.
	■ Others: - Straight bonds convertible bonds, bonds with warrants, medium-term notes, asset-backed securities and short-term commercial papers.	Others: - Bonds issued based on widely accepted Syariah principles such as Musyarakah (partnership), Ijara (leasing), Mudharabah (profit-sharing), Bai-Bithaman Ajil, etc.
Multilateral Development Banks	■ Asian Development Bank's Putra Bonds - ADB made its inaugural Ringgit denominated bond issuance in Malaysia in November 2004.	■ International Finance Corporation's Wawasan bonds - IFC's Wawasan bonds was issued in December 2004.

2.3 Issuers Characteristics and Maturity Profiles

The corporate issuers are mainly from the infrastructure (toll roads), utilities (water, electricity supply) and construction sectors. Reflecting the financing requirement of these companies, a large proportion of the corporate bonds were issued within the tenure of 5 to 10 years. For example, PDS issued within this tenure accounted for 52.2% and 42.9% of total new issuance in 2003 and 2004, respectively. An encouraging development in the domestic market was that more companies were able to tap longer-term funds, with the longest maturity of 28 years issued in 2003.

In terms of rating profiles, the bulk of the PDS issues are in the AAA and AA categories. Investors' preference for companies with good credit qualities and strong credit profiles had resulted in companies with high ratings tapping the PDS market at competitive pricing. Due to the lack of demand for lower rating bonds and the high-risk premium required by investors, issuers with ratings of BBB and below were discouraged to issue bonds.

2.4 Investors Characteristics

For the Government securities, the major holders for MGS were the Employee Provident Fund (EPF) (64.7% of total outstanding), banking system (20.5%) and insurance companies (8.9%) as at end 2003. Non-residents holdings of MGS were small, accounting for merely 0.1% of total MGS outstanding. The high concentration of EPF and insurance companies' holdings of MGS were due partly to the compulsory regulatory which require these institutions to hold Government securities. The holdings are captive in nature and had resulted in less than desired secondary trading activities of the MGS market.

Meanwhile, for the corporate bonds sector, the EPF, banking system and insurance companies hold a lower share of 15%, 18% and 12% of total PDS outstanding, respectively. Other institutional funds, such as the unit trust funds and bond funds are the major holders, contributing to more than 50% of the PDS outstanding. The diverse investor profile for PDS, with the low concentration in the banking system indicates a well diversification of risks for the banking system.

2.5 Secondary Market

Secondary market activities have improved significantly over the years, arising from various efforts to enhance the trading activities such as introducing principal dealers system and improving the information dissemination mechanism. In terms of market liquidity, the annual turnover ratio for the bond market was 1. The MGS market was the most liquid with a turnover ratio of 1.3 while the PDS market was much lower at 0.4. The indicators show that secondary market activities in Malaysia are low compared with developed markets and need to be improved further.

2.6 Bond Market Infrastructure

In Malaysia, a sound regulatory framework protecting both issuers and investors, supported by strong financial market infrastructure facilitated the bond issuance and investment process. The priority of developing bond market in the early stage was to make sure that the essential building blocks, including the regulatory framework, settlement system, rating agencies, information dissemination mechanism were put in place to support the issuance, investment and trading activities.

2.6.1 Regulatory Framework

Prior to the Financial Crisis, Bank Negara Malaysia, the Securities Commission and various other government agencies were involved in regulating the bond market. This had created some inefficiency in the regulatory framework. During the Financial Crisis, the Government recognised the importance of accelerating the development of the corporate bond market. An inter-agency committee, the National Bond Market Committee (NBMC), was set up in 1999 to provide overall policy direction as well as to rationalise the regulatory framework for the bond market. NBMC comprises senior Government representatives from the Treasury, Central Bank, Registrar of Companies, the Malaysia Stock Exchange and the Securities Commission.

One of the initial tasks of the NBMC during the Crisis was to see to the full rationalisation of the regulatory framework for the corporate bond market. In streamlining the issuance process, amendments were made to the Companies Act, the Securities Commission Act and the Banking and Financial Institutions Act. NBMC was a key factor in the effective formulation and implementation

of a coordinated and comprehensive policy framework governing the bond market. The NBMC has successfully rationalised the regulatory framework for the corporate bond market with the Securities Commission being entrusted as the single regulatory body to regulate and promote the development of the bond market in July 2000. The Bank's approval is still required for financial institution and its holdings company to issue debt securities. The changes facilitated a more cost efficient and effective issuance process. In expediting the issuance process, the approval process has moved from merit-base regime to full disclosure-based regime. Today, the approval process takes only 14 days upon the submission of complete documents for a straight bond. Shelf registration was introduced to provide more flexibility to companies in issuing bonds. Minimum professional standards were also imposed on market intermediaries and bond documentation in order to enhance protection for bondholders, thereby promoting investor protection.

2.6.2 Settlement and Clearing System

In the area of market infrastructure, the Bank provides and supports the platform for tendering, settlement and clearing of securities. All Malaysian Government securities, Treasury bills, Cagamas papers have been issued on a computerised scripless trading system known as SPEEDS since 1990. In 1996, all unlisted long term PDS were required to be issued on scripless through SPEEDS. Within the primary market auction process, the Fully Automated system for Issuing/ Tendering (FAST) was established in 1996. FAST allows electronic submission and processing of tenders for scripless Government securities and PDS. The automation has increased the efficiency in tendering and eliminated potential disputes that may arise from the bidding process. FAST also enables repurchase transactions between the Bank and interbank institutions under the Fully Automated Repo System. In 1999, the implementation of RENTAS, which is a real-time gross settlement system with delivery versus payment structure managed to reduce settlement risks in securities transactions and it replaced the end of day net settlement of the SPEEDS system.

As for the dissemination of information, prior to October 1997, there was no centralised source for collated and co-ordinated market information of bond market activities and for disseminating such information to market players. This lack of information was often cited as the principal reason for the lack of secondary market activity in the bond market. To address this, the Bank established the Bond Information and Dissemination System (BIDS) in 1997. BIDS is a

computerised and centralised database on Ringgit debt securities, providing information on the terms of issues, prices of trades, details of trades done including transactions on repo activities and relevant news on the various debt securities issued by both the Government and the private sector. Financial institutions have the obligation to report details of trade done while the rating agencies, on the other hand, are required to update the issuer's ratings. BIDS is also equipped with a surveillance system to monitor trading activities. For wider information dissemination, the Bank established the Ringgit Bond Market web site in 1997 and the Islamic Money Market web site in 2004, accessible to the general public. The information dissemination infrastructure had facilitated more efficient trading and enhanced secondary market liquidity.

2.6.3 Rating Agencies

An effective, credible and independent credit rating agency is necessary in developing the PDS market. The role of rating agencies is to provide independent opinions on the potential default risks of specific issuers and to disseminate widely all appropriate and timely information to existing and potential investors of PDS. The Bank played an important role in setting up the Rating Agency Malaysia Berhad (RAM) in November 1990. In view of the increasing number of applications for the issuance of PDS and the importance of a healthy competitive environment, a second rating agency, the Malaysian Rating Corporation Berhad (MARC) was established in October 1995. MARC complements RAM in promoting market efficiency by expediting a second opinion on rating.

Mandatory rating requirement and minimum investment grade requirement of BBB or more for all corporate bond issues were put in place. This requirement had indirectly helped the early stage development of rating agencies as well as ensured a healthy corporate bond profile in Malaysia. The minimum investment grade requirements were subsequently removed on 1 July 2000. The mandatory rating requirements will be removed in future, and move towards a voluntary rating programme.

3. Link between Domestic Bond Market and Central Bank Policy

3.1 Fiscal and Monetary Policy Coordination

The credibility of fiscal policy has a large influence on the conduct and effectiveness of monetary policy. Monetary policy is more effective when the

private sector believes the government will not resort to inflationary deficit financing. In Malaysia this principle is observed through the Central Bank Act, which prohibits Central Bank financing to the Government. As long as inflation expectations are low, monetary policy can be used to offset a downturn during periods when fiscal policy cannot be expansionary. For several reasons, monetary policy may be the preferred tool for countercyclical policy, as it has a shorter implementation lag, a more predictable impact and is more easily reversed. A credible fiscal policy not only facilitates an activist countercyclical monetary policy, it might also be a prerequisite for monetary policy effectiveness. Otherwise the perception that fiscal policy will be dominant (i.e. monetary policy will eventually adjust to the financing requirements of the government) would have adverse economic consequences.

The Bank's responsibility as the fiscal agent of the Government include managing the public debt and acting on behalf of the Government in its public loan programme, which includes the issuance of debt securities for the Government, both in Malaysia and abroad, as well as the undertaking of treasury operations for these loans. Close coordination between the fiscal and the monetary policies are conducted through regular meetings from the technical level up to the Management decision-making level to ensure consistency in policies. The Bank advises the Government on its loan programme, including the terms and timing of loans and the issue of new type of securities. In the issuance of global bonds abroad and external debt, the Bank acts as an agent on behalf of the Government, to access funds in the international money and capital markets. In early 1990s, the Bank in its capacity as the adviser to the Government, was instrumental in getting the Federal Government to prepay, refinance and swap some of its more expensive loans in order to reduce the Government's debt servicing and minimise the risks of currency and interest rate exposures.

3.2 Objectives and Strategy for Monetary Policy

The ultimate objective of monetary policy in the Malaysian context is to promote the highest sustainable rate of output growth that is consistent with domestic price and exchange rate stability. In working towards this objective, the Bank seeks to maintain monetary stability by ensuring that the growth in credit and money supply are just adequate to accommodate and fuel real growth in the economy without causing inflationary pressures.

The Bank moved from monetary targeting in the 1980s to interest rates targeting in the mid-1990s. In March 2004, the Bank introduced the Overnight Policy Rate (OPR) as the indicator of the monetary policy. The OPR has a dual role- as a signalling device to indicate the monetary stance and as a target rate for the day-to-day liquidity operations of the Bank. Any change in the monetary policy stance would be signalled by a change in the OPR. OPR serves as the primary reference rate in determining other market rates.

In terms of the operational target, the Bank uses short-term interest rates. Monetary operations of the Bank target the overnight interbank rate. Liquidity management is aimed at ensuring the appropriate level of liquidity that would influence the overnight interbank rate to move close to the OPR. Liquidity operations are also conducted at other maturities but without targeting a specific interest rate level. Therefore, interbank interest rates at other maturities would be market determined, reflecting overall demand and supply conditions in the money market as well as interest rate expectations. The operations aim to achieve greater efficiency in the operation of the financial markets, facilitate more effective pricing in the financial system to enhance the effectiveness of the monetary transmission mechanism. A developed bond market would enhance the effectiveness of monetary policy by effectively facilitating the transmission of changes in the policy rate to the longer-term rates, and ultimately to key macroeconomic objectives.

Although the conduct of monetary policy operates through short-term interest rates, the Bank continues to monitor various other financial data, including the growth of monetary aggregates and bank lending, price developments including asset prices and indicators of consumption and investment.

3.3 The Choice of Monetary Policy Instruments

The Bank uses a mix of direct and indirect policy instruments in the conduct of monetary policy. The direct policy tools include the centralisation of Federal Government surplus balances and the Employees Provident Fund (EPF)'s excess funds at the Bank; and variations in the Statutory Reserve Requirement (SRR) ratio. The indirect tools are mainly direct borrowing and lending operations by the Bank in the interbank market and, open market operations and the issuance of the Central Bank papers. When the conventional instruments are ineffective and inadequate in addressing external shocks, the Bank as a last resort may use selective administrative measures.

Money market operation is the most used policy tool by the Bank to control the amount of liquidity in the economy. Money market operation can be conducted either through direct borrowing or lending by the Bank in the interbank market and also through the usual open market operations. The open market operations are transacted mainly via sale and purchase of Bank Negara Malaysia Bills (BNBs) and Notes (BNNNs) as well as the Government securities either directly or through repurchase agreements (repo) or reverse repo. The Bank had actively issued BNBs and BNNNs to conduct open market operations as a means to mop up the excess liquidity, to overcome the problem of inadequate supply of the Government papers.

4. The Role of Central Bank in Supporting Bond Market

The Bank has played an important role since the early stage of bond market development. The aims were to diversify the financial base of the financial system and to provide both the public and private sectors with a better opportunity to adopt value-maximising capital structures.

In the initial stage, the Bank's efforts were focussed on establishing the legal and regulatory framework, building market institutions and market infrastructure as well as instituting changes to the existing fiscal structure. On the institutional front, the Bank was involved in the establishment of Cagamas Berhad (or the National Mortgage Corporation), rating agencies and the Securities Commission. On infrastructure building, the Bank maintains and continuously develops and improves the payment and settlement system, and acts as central depository for all debt securities. The tendering system was fully automated since 1997, and the settlement has been on a real time basis since 1999. Information dissemination was improved with the establishment of the Bond Information and Dissemination System (BIDS) in 1997.

With the essential building blocks in place, the Bank's role gradually evolved towards establishing the benchmark yield curve, deepening and widening the market through improving secondary market liquidity, widening the investor base, and assisting in creating new instruments in the market. A deep and liquid bond market provides the central bank with the instruments for implementation of monetary policy through open market operations.

5. Challenges and Strategies to Broadened Bond Market

5.1 Past Efforts/ Recent Initiatives

5.1.1 Creation of Benchmark Yield Curves

A reliable market-based benchmark yield curve is a pre-requisite for a well-developed and efficient bond market. A significant, liquid, efficient and market-oriented Government securities market would contribute towards more efficient sovereign debt management, effective monetary operations and financial stability. It would also facilitate the intermediation process through efficient market pricing and borrowing and lending decision in the primary and secondary market.

In building the benchmark yield curve, the absence of an active secondary Government securities market is one of the major challenges encountered. Analysis on the benchmark yield curve needs to be conducted with considerations given to the impact of demand and supply of securities in an environment of a thin market.

The Bank plays a significant role in the introduction of a programme to develop the benchmark yield curves, which include:

- The introduction of When Issue trading of government bonds since mid-1990s.
- The introduction of Auction Calendar since 2000 to provide transparency on the issuance schedule of Government securities.
- The regular issuance of Malaysian Government Securities (MGS) of various maturities of 3-, 5- and 10 –year. The MGS maturities will be lengthened to 20-year in 2005.
- The reopening of off-the-run MGS issues in order to enlarge the size of MGS and to reduce the number of outstanding new issues.
- The introduction of the principal dealers (PDs) system in 1989, with close monitoring of the PD's performance. The PD system was further reviewed and improved to enhance the effectiveness of the system. The PDs are required to market make Government securities by providing two-way price quotations, maintain a minimum market share of 2.5% of the industry's total specified securities trading volume on a monthly basis. The improvement in the system had led to a more active secondary market.

- Other measures taken in parallel include implementing transparent and active two-way prices for the benchmark securities via the Benchmark Screen under the BIDS system and closer monitoring of the market activities.

In addition, PDs are required to submit the indicative yields for MGS and PDS on a weekly basis. The Bank would then construct the indicative benchmark yield curves based on the average indicative yields submitted by PDs on a weekly basis. In an environment of weak secondary trading, the indicative benchmark yield curves serve as a price reference, and more importantly, it also provides information on the market expectation, which is essential in forming monetary policy.

5.1.2 Widening the Investor Base

The major holders of MGS are captive holders partly due to the legal and administrative requirements. Many institutions, such as the provident and pension funds (mainly the EPF), the insurance companies and the banking institutions, are required by regulatory provisions to invest a certain proportion of their funds in MGS. These institutions tend to hold the securities up to maturity. The regulatory requirement and investment practices had inhibited active secondary trading. Several measures were taken to ease the captive demand of MGS and to widen the investor base in the bond market:

- Relaxation on the minimum investment requirements imposed on the Employee Provident Fund (EPF), from 70% to 50% of its annual investible funds, provided that its cumulative holdings of MGS did not fall below 70%. Since 1992, the Ministry of Finance has allowed the EPF's investment in MGS to fall below 70% of its fund. As at end 2004, MGS accounted for 38.3% of the EPF's total investments.
- Relaxation on the minimum requirement for a licensed insurer to invest in MGS from 25% to 20% of the insurer's margin of solvency in 1996. The limit was relaxed further to 10% of insurers' margin of solvency in 2002.
- The new liquidity framework for the banking institutions was introduced in 1998. The new liquidity framework helped to free up the captive demand on Government securities. Under the new framework, banking institutions were no longer required to maintain a minimum liquid asset ratio which had created a captive demand and price distortions on Government securities.
- In order to ensure a wider distribution at the primary market level, a limit of 30% was put in place for any allotment of specified scripless securities at auction to any single bidder.

For the PDS market, effective from 1 January 2004, the Bank increased the insurers' limits on investment in secured and unsecured credit facilities (which includes PDS) from 40% to 50% of an insurer's margin of solvency (MOS) under the admitted asset framework, while the limit in unsecured credit facilities were increased from 30% to 40% of MOS. The relaxation of investment limits in credit facilities would promote higher demand for PDS by insurance companies.

5.1.3 Improving Secondary Market Liquidity

In improving secondary market liquidity as well as enhancing the risk management tools of market participants, the following measures were implemented:

- Amendments to the Banking and Financial Institution Act 1989 were made in July 2000 to allow non-licensed institutions to undertake Repo transactions with the licensed financial institutions.
- Principal dealers were allowed to trade on regulated short-selling basis for securities regulated by Bank Negara Malaysia.
- Securities Borrowing and Lending (SBL) Programme was introduced in February 2001 which involved an exchange of securities between two parties for a period of time to meet the temporary needs of either or both parties. The programme provided a new mechanism to support trading strategies for dealers as well as to enhance the returns on bond portfolio investment for investors. However, SBL was not active as market participants preferred to transact via repo and reverse repo to borrow and lend securities.

5.1.4 Further Measures to Enhance Liquidity

- In October 2004, commercial banks and merchant banks were allowed to deduct their holdings of the Ringgit marketable debt securities in the trading book from eligible liabilities in the computation of Statutory Reserve Requirement (SRR). The deduction would reduce the holding cost of these papers for the commercial banks and merchant banks. This aims at promoting secondary trading of such securities in the bond market and levelling the playing field for commercial banks and merchant banks with that of the other players in the bond market.
- In January 2005, the Bank announced the usage of repos as a monetary policy instrument. In this respect, the Bank would act as a catalyst to encourage market participants to actively use repos as an alternative funding

instrument, enhance the flexibility for market participants to use the securities in managing risks and trading strategies and further strengthen the banking industry's risk management capabilities by encouraging banks to move towards collateralised inter-bank transactions.

- The Bank introduced the Institutional Custodian Programme (ISCAP) to encourage the participation of institutional investors in securities lending activities. Through ISCAP, the Bank will borrow securities from major institutional investors such as pension funds and insurance companies. The Bank will use the borrowed securities, mainly MGS, for its repo operations. By 'freeing' the captive holding of MGS held by the institutional investors to market participants, the overall liquidity in the bond market will be further enhanced.
- A securities lending facility for PDs was also introduced to facilitate market-making activities and promote competitive pricing. In doing so, principal dealers will be able to provide and quote continuous prices for MGS and improve further the price discovery process and promote liquidity in the secondary market. The securities for this lending facility will be sourced from ISCAP or the Bank's own MGS holdings.
- Since the sufficient supply of MGS is crucial for successful securities lending facility and repo operations, the Bank will also purchase MGS from primary and secondary markets based on market prices. To ensure that these purchases do not influence or distort market prices, the purchase of MGS at primary tenders will be based on the weighted average price of the tender and limited to a maximum of 10% of the issue size. The amount purchased in the secondary market is limited to 10% of the outstanding issued amount.

5.1.5 Development of the Securitisation Market

The development of the securitisation market in Malaysia could be traced back to 1987 with the formation of Cagamas Berhad, which was established to promote secondary mortgage market and to spearhead the development of PDS market in Malaysia. Cagamas purchases housing loans from the financial institutions and securitise them into bonds that could be traded in the secondary market. The bulk of Cagamas purchases were on recourse basis. The issuance of large volumes of Cagamas bonds had acted as a catalyst for the development of a vibrant PDS market in the early stage of bond market development in Malaysia.

To spur the development of Cagamas at its initial stage, the Bank has accorded customised regulatory treatment for banking institutions holdings of Cagamas debt. Cagamas papers carried a 10% risk weight for capital adequacy purposes while PDs were required to bid for Cagamas papers at primary issuance. Recognising the significant development of Cagamas since its inception, in September 2004, the Bank revised the regulatory treatment for Cagamas securities. Among others, Cagamas papers now carried a 20% (for securities issued after 4 September 2004) risk weight for capital adequacy purposes, subject to Single Customer Credit limit (for securities issued after 4 September 2004) of 35% of total capital funds of banking institutions, and PDs were no longer required to bid for the primary issuance of Cagamas papers. The revised regulatory treatment promotes a more market-based pricing of Cagamas securities, and at the same time provides more flexibility for Cagamas to package new products and widen its investor base.

In remaining competitive and innovative in the market, Cagamas has diversified to package hire purchase, credit cards, industrial loans and Islamic debts. In October 2004, Cagamas Berhad through its single purpose and wholly owned subsidiary, Cagamas MBS Berhad (CMBS) embarked on the first issuance of Residential Mortgage Backed Securities (RMBS) backed by Government's staff housing loans. RMBS represents Cagamas' pioneer purchase without recourse, signifying a true securitisation transaction. RMBS issuance augurs well with the development of securitisation market in Malaysia. It would provide greater market depth and liquidity to the bond market, as well as create a yield curve for mortgage-backed securities that serves as a benchmark for other ABS issuers.

On the other hand, the Securities Commission issued the Guidelines on the Offering of Asset-Backed Debt Securities (ABS) in April 2001 in order to provide a clear regulatory framework for the smooth issuance of ABS. Since then, 15 ABS issues amounting to RM9.8 billion were issued. The types of ABS available in the domestic bond market are collaterised bond obligations, collaterised loan obligations, and commercial mortgaged-backed securities as well as hire purchase-backed securities. Concurrently, the Bank issued the Prudential Standards on Asset Backed Securities Transactions by Licensed Institutions, which would help in creating more awareness and participation in securitisation transactions.

5.1.6 Development of Islamic Debt Securities

Malaysia has registered significant development in the Islamic bond market, as reflected in the growing size of the Islamic private debt securities. The increasing popularity of Islamic bonds is attributable to several factors. Firstly, the Islamic PDS provides an avenue for Islamic investors to invest in Shariah-compliant investment, thus guaranteeing access to a larger investor based. Secondly, Islamic bonds also offer potentially lower pricing to issuers via the wider investor pool due to the demand of many Islamic investors such as Lembaga Tabung Haji (Pilgrimes Fund Board), Islamic unit trust funds, and non-resident Islamic investors. In providing efficient pricing of Islamic securities, the Government issues the Malaysian Islamic Treasury Bills and Government Investment Issues for building the Islamic benchmark yield curves.

In Malaysia, the Al-Bai Bithaman Ajil structure has been the preferred choice to finance projects with long gestation periods. Under this principle, the financier purchases an asset from the issuer and sells it back to the same party at a premium. Another popular Islamic PDS tool is based on the Murabahah concept which caters to short to medium-term requirements. Market players are now moving into other more dynamic Islamic structures such as the Ijarah (leasing contract), Istisna (future delivery of asset) and Bai Al Dayn (sale & purchase of debt securities).

5.1.7 Development of Supranational Bond Market

In the effort to add new asset class and to widen the breadth of the domestic bond market, the Bank in April 2004, liberalised its foreign exchange regulation allowing multilateral development banks (MDBs) or multilateral financial institutions (MFIs) to issue Ringgit denominated bonds in the Malaysian capital market. The Bank classified the MDB's or MFI's Ringgit denominated bonds as liquefiable assets under the new liquidity framework for banking institutions, accorded 0% risk weight under the risk-weighted capital ratio framework and allowed deduction from eligible liabilities for computation of statutory reserves requirements. For resident insurers, these bonds are qualified as low risk assets to support their margin of solvency. Similarly, the SC also provided various flexibilities, which among others, included accepting international credit ratings and exempting MDBs or MFIs from various documentation requirements under the PDS Guideline.

The conducive environment has facilitated the issuance of the Asian Development Bank (ADB)'s Putra bonds in November 2004 and the International Finance Corporation (IFC)'s Wawasan Islamic bonds in December 2004. The issuances mark a significant development in the domestic market.

5.1.8 Development of the Futures Market

The Malaysian Derivatives Exchange introduced the 3- year, 5-year and 10-year MGS futures contracts to provide hedging mechanism for investors as well as to enhance price discovery process in the domestic bond market. However, the trading activities in the futures markets have yet to gain momentum.

5.1.9 Tax Incentives

In promoting the development of the bond market, the Government has accorded tax incentives to both issuers and investors. Among others, for the domestic retail investors, tax exemption on interest income earned was given to individual, unit trusts investors and listed closed-end funds. Effective from 11 September 2004, tax exemption was also given on interest income derived by non-resident companies from Ringgit-denominated bonds approved by the Securities Commission. The removal of withholding tax would attract more foreign participation and thus widen the investor base in the domestic market.

In the effort to further develop the Islamic financial market and the asset securitisation market, the Government accorded tax deduction for expenses incurred on issuance of Islamic PDS and all ABS for a period of five years commencing 2003 and 2004, respectively. Other exemptions, such as stamp duty, real property gain tax were also given to ensure tax neutrality of Islamic PDS and ABS vis-à-vis conventional bonds. The tax incentives given would help to boost the growth of the Islamic PDS and ABS market in the coming years.

6. Moving Forward

Malaysia has outlined a clear vision in the development of the bond market through the Financial Sector Masterplan (FSMP) and the Capital Market Masterplan (CMP).

- The FSMP, introduced by the Bank in 2001, charts a ten-year strategy in developing the financial sector. The focus of the initial phase of the plan

is on the development of the financial infrastructure and financial markets as well as capacity enhancement and institutional development, in particular, of the domestic financial institutions, thereby putting in place the pre-conditions for moving forward to a more liberalised and competitive environment. The objective is the evolution to a more diversified financial system with financial institutions that are efficient, innovative and resilient. Such an objective augurs well with the development of a well-functioning, deep and liquid bond market.

- The CMP released by the Securities Commission in February 2001 is a comprehensive plan charting the strategic positioning and future direction of the Malaysian capital market for the next ten years (2001 – 2010). The CMP charts the Government's vision and objectives for the capital market and addresses weaknesses in the bond market.

On regional cooperation, Malaysia participates actively in the Asian Bond Markets Initiative (ABMI) under the ASEAN + 3 initiative. The Bank is chairing the Working Group on Foreign Exchange Transactions and Settlement Mechanism under the ABMI. At the same time, the Bank participates in the Asia Bond Fund I and the soon-to-be launched Asia Bond Fund II under the EMEAP initiative.

7. Conclusion

The Bank's active involvement in the development of the bond market has produced favourable results. The relatively developed bond market in Malaysia has enabled the Government to tap funds domestically without exposing to foreign exchange risks and has also helped to diversify credit risks from the banking system. The bond market provides an integral source of financing to the private sector, and at the same time, it also plays a vital role in facilitating the Bank's functions in the monetary operations. Efforts will continuously be made to address the weaknesses in the bond market so that the market will be efficient in carrying out its various functions in the economy.

Data

Table 1: Size of Bond Market

Year	Total Long Term Debt Securities (RM mil)	GDP (RM mil)	% of GDP
1996	**118,925**	253,732	46.9%
1997	**134,288**	281,795	47.7%
1998	**157,276**	283,243	55.5%
1999	**203,371**	300,764	67.6%
2000	**245,081**	343,215	71.4%
2001	**278,601**	334,404	83.3%
2002	**278,165**	361,624	76.9%
2003	**328,018**	394,200	83.2%
2004	**362,983**	447,548	81.1%

Table 2: Financing to the Economy

Year	Loans Outstanding		Bonds Oustanding		Stock Market Capitalisation	
	RM mil	% of GDP	RM mil	% of GDP	RM mil	% of GDP
1996	335,279	132.1	118,925	46.9	806,770	318.0
1997	424,489	150.6	134,288	47.7	375,800	133.4
1998	417,074	147.2	157,276	55.5	374,520	132.2
1999	395,098	131.4	203,371	67.6	552,690	183.8
2000	416,297	121.3	245,081	71.4	444,350	129.5
2001	432,357	129.3	278,601	83.3	464,980	139.0
2002	452,194	125.0	278,165	76.9	481,620	133.2
2003	473,777	120.2	328,018	83.2	640,520	162.5
2004	513,971	114.8	362,983	81.1	722,040	161.3

Table 3: Distribution of Outstanding Domestic Bond by Holders
As at end-2003

Holders	MGS (RM mil)	% of share	PDS (Corp+Cagamas+Danaharta+ Danamodal) (RM mil)	% of share
Banking System	26,787.8	20.5%	34,180.2	19.1%
Insurance Companies	11,598.4	8.9%	21,825.3	12.2%
EPF	84,678.2	64.7%	25,980.8	14.5%
Non-Resident	115.5	0.1%	883.8	0.5%
Others	7,620.0	5.8%	95,892.4	53.6%
Outstanding	130,800.0		178,762.5	

Table 4: Bonds Outstanding by Issuer

Year	Total Public Bonds RM mil	Total Private Bonds RM mil
1996	72,152.1	46,772.4
1997	70,930.1	63,358.0
1998	81,865.5	75,410.3
1999	89,694.5	113,676.3
2000	103,408.8	141,672.1
2001	117,450.0	161,151.0
2002	125,013.6	153,151.1
2003	149,255.0	178,762.5
2004	175,378.9	187,604.5

Table 5: Turnover of Debt Securities

Year	Total Turnover RM mil	Outstanding RM mil	Liquidity
1996	25,373.0	118,924.5	0.2
1997	12,367.0	134,288.1	0.1
1998	60,225.3	157,275.8	0.4
1999	182,371.2	203,370.8	0.9
2000	303,621.3	245,080.9	1.2
2001	396,601.2	278,601.0	1.4
2002	405,128.5	278,164.8	1.5
2003	452,845.2	328,017.5	1.4
2004	360,251.5	362,983.4	1.0

Table 6: Outstanding Asset Backed Securities

Year	RM mil
2001	1,124.31
2002	3,040.51
2003	6,447.38
2004	8,987.89

Chapter 7
Domestic Bond Market Development and Implications to Central Banks: Nepal

by
Naresh Shakya[1]

1. Overview

Debt markets play an important role in the economy as they provide economic agents with alternative options to banking for allocating their savings efficiently. It is also the effective tool for implementing monetary policy of the central bank. Hence, it is obvious that government debt management should operate within a well-defined framework based on the principles of transparency, continuity and accountability.

The Domestic Debt Act, 2002, provides the framework under which government domestic debt securities are issued and serviced in Nepal. The NRB manages the domestic debt of government on the basis of separate agreement with the HMG/N. The HMG/N, Ministry of Finance manages external debt of the government. The main objective of domestic debt management is to ensure the need of government financing and its payment obligations are met at the lowest possible cost over the medium- to long- run consistent with a prudent degree of risk. The objectives of domestic debt securities market could also be to motivate domestic savings and investment through efficient money market mechanism so as to ensure the following purposes.

- To influence the size and maturity period of government domestic debts.
- To influence the appropriate pattern of interest rates.
- To affect the type of holder of the government debt securities.
- To achieve short-term stabilisation of bond prices.
- To limit the management cost of government debt securities.
- To develop capital market in a prudent manner.
- To give priority to domestic over foreign borrowing.
- To give priority to public sector borrowing.

The Minister of Finance publicly announces an overall strategy for government borrowing in the budget speech in July yearly. In practice, the Public

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Debt Management Department (PDMD) of Nepal Rastra Bank (NRB) undertakes the responsibility of implementation of government domestic debt strategy and HMG/N, Ministry of Finance (MoF) for foreign debt. The Foreign Aid Coordination Division (FACD) of the Ministry of Finance, HMG/N is responsible for the foreign loan agreement, servicing etc. The Public Debt Management Department of the Nepal Rastra Bank is responsible for the issue, servicing and recording of the government's domestic borrowing while the Financial Comptroller General's Office (FCGO), HMG/N is responsible for the disbursement, reimbursement and record keeping.

As in other economies, the Nepalese debt market could also be classified in the primary and secondary markets. The government securities are sold for the first time in the primary markets. The Treasury Bills (TBs) are issued on auction with the traditional sealed bid auction format. However, the long-term securities are issued in the face value with fixed coupon on the application basis. Everyone is eligible to participate in the issue of securities unless NRB announces differently.

A multiple price auction format has been used for the auction of TBs. The uniform price format has been extended to the non-competitive bidders of TBs. The non-competitive bidders would be awarded up to 15 percent of the notified amount at the weighted average rate of accepted bids.

The PDMD of NRB is providing the floor to the investors on Treasury Bills. They are also allowed to sell and buy TBs from commercial banks. At the moment, 46 Market Makers (bank and non-bank financial institutions) are providing the secondary market facility for the long-term government debt securities transactions.

While Nepalese government domestic debt securities have been issued and in existence for 32 years, the Nepalese debt market is, nonetheless, still in a primitive stage. The historical development of public debt in Nepal shows that the country had been a debt free nation till 1950s. The first ever 90 days Treasury Bills amounting to Rs. 7 million were issued on 1 percent coupons in 1962. The Development Bond, Special Bond, National Saving Certificate, Citizen Investment Certificates were issued in 1964, 1971, 1983 and 2001 respectively.

Since 1990, monetary policy stance shifted from direct to indirect methods of control. Special emphasis was given to open market operations as the main

policy instrument to contain monetary aggregates within the targeted level. The Treasury Bills auction system was introduced in November 1988 to determine market oriented interest rate. Marketable government securities have increased in size and volume of transaction after 1991. In 1991, the NRB issued the "NRB Bond" as a new monetary instrument to mop up excess liquidity in the economy.

The NRB initiated the secondary market for Treasury Bills in the fiscal year 1994/95. At the same time, banks and financial institutions were licensed to function as market makers to provide an active secondary market for investors of government securities. Very recently, increased transparency was provided to the market with the announcement of the Issue Calendar for all dated securities. The secondary market of TBs is now based on the Liquidity Monitoring and Forecasting Framework (LMFF), which monitors the level of liquidity in the economy. As indicated by the LMFF, open market operations have been conducted to mop-up or inject liquidity with the Outright Sale/Purchase, Repo/Reverse Repo auctions. Besides these, a Standing Liquidity Facility (SLF) is also provided to investing commercial banks on their holdings of TBs and Development Bonds based on a penal interest rate of up to the maximum limit of 90 percent of their holdings of TBs and Development Bonds.

Though, the Nepalese government debt market is in the primitive stage as compared with developed countries, the government's efforts to develop the market has been very encouraging. As such, the government is endeavoring to issue long-term government debt securities through an auction system. The NRB has also contributed enormous effort to strengthen the secondary market for government debt securities by trading in market oriented price. For this purpose, the government is planning to list the government debt securities in the Nepal Stock Exchange (NEPSE). The NRB is also planning to issue scripless government debt securities in the near future while the issuance of new and diversified financial instruments is awaited eagerly by the market participants. There is the very great possibility that securities such as Insurance Bonds, Pension and Provident Fund Bonds, Municipal Bonds and other Special Bonds could be issued to satisfy the demands of market participants and thus further develop Nepalese bond market.

2. Recent Development of the Domestic Bond Market

Public debt is an important alternative of government financing for compensating budgetary deficits. Deficit financing is considered as a fiscal

arrangement for meeting a gap between expected revenue plus foreign grant minus expected government expenditure. Public debt can be categorised as both domestic and foreign borrowing. In Nepal, the requirement of public debt also depends on the external gap. Short-term domestic borrowing has been used primarily to meet the budget deficit or to meet the shortfall in the cash flow and the long-term borrowing has been used primarily to meet the short fall in the development expenditure.

Historically, public debt is not something new in Nepal as in the past, kings/ prime ministers had borrowed from the public. For example, King Prithvi Narayan Shah borrowed from the public to finance a war in 1768 A.D. The Rana Prime Minister Chandra Shamsher had also borrowed money from the Pashupati Nath Temple for the resettlement of emancipated slaves around 1925 A.D. With the enforcement of the Public Debt Act, 1960, domestic debt was raised by issuing Treasury Bills, Development Bonds and National Saving Certificates in 1962, 1963 and 1984 respectively. Some of them were issued as deficit financing instruments while others were issued with a view to deepening the money and capital market. There are many other bonds such as Special Bonds, Land Compensation Bond (1964), Forest Compensation Bonds (1965), Interest Prize Bonds (1991) and other various special bonds issued for specific purposes.

Since the Nepal Rastra Bank is responsible for managing domestic debt on behalf of the government, it maintains a database for every domestic debt. The Financial Comptroller General's Office is responsible for maintaining records on internal debt but regular reports on the country's debt obligations and its capacity to repay have never been made public so far.

In the last decade alone, there was more than a three fold increase in the domestic borrowing of the government. Since the bulk of the domestic borrowing was from the banking sector, it had significant expansionary effects on the economy. As of November 15, 2004, HMG/N had an outstanding domestic debt of US$1,111.57 million and some of them, such as the Development and Special Bonds will mature by 2010 only. In the last decade, the domestic borrowing has grown at the rate of 12 percent per annum.

While formulating the budget, the Ministry of Finance sets an upper limit for the public debt to be mobilised for that fiscal year which is usually determined by the current status of the budget deficit. There are certain policy provisions which guide the level of public debt. The level of GDP, BOP and the revenue

of the government has a major role in determining the quantum of current public debt.

There are no set patterns or tendencies for domestic debt securities in Nepal. For example, the Development Bond contributed 58 percent of total domestic debt in 1984 while the Special Bonds and Citizen Saving Certificate contributed 41 percent and 1 percent respectively. Till the inaugural issuance of National Saving Certificates in 1984, the Development Bond was the major source of domestic public debt (58 percent of total domestic debt of Rs.1,000 million). From 1984 onward, the structure of domestic debt was not seen as a uniform dynamic phenomenon. In 2002, Treasury Bills took the lead, contributing 56 percent of total domestic debt. So far as the ownership of the Bonds and Bills are concerned, Nepal Rastra Bank, commercial banks, public and private organisations and individuals are the major stakeholders. The NRB has the lead in ownership followed by other organisations and commercial banks until in 2001 when commercial banks took over (2001, 2002 and 2003).

2.1 Type of Debt Instruments

Government debt is typically held by the central bank due to the conversion of overdraft to Treasury Bills. Commercial banks, financial institutions, insurance companies, provident fund, corporate and individuals are also major holders of government domestic debt. The HMG/N uses a number of instruments to raise funds domestically as follows:

2.1.1 Treasury Bills (TBs)

TBs are issued on auction as specified in the issue calendar and are most of the time purchased by commercial banks as a competitive bidder and others rarely as a non- competitive bidders. TBs are issued on a multiple price format or pay-your-bid format. Thus, the TB auction could be divided into competitive and non-competitive categories, allocating at least 15 percent of offered amount for the non-competitive bidders.

While issuing TBs, the notice of auction would be published in the national daily newspaper mentioning the necessary such as series number, offered amount, taxable non-taxable and maturity period, earnest money, issue date, bidding time, procedure and other conditions. This information would also be disseminated via the website of NRB.

TBs are issued as a promissory note so that the buyer can purchase and sell these bills by endorsement as well as through the commercial banks. The face value will be repaid by the Nepal Rastra Bank on maturity. The HMG/N has issued 28 days, 91 days, 182 days and 364 days bills under this category.

2.1.2 Bonds

Long-term securities are issued as per the issue calendar. The HMG/N issues long-term securities such as Development Bond, National Saving Certificates and Citizen Saving Certificates as stock or promissory note. For the issuance of these Bonds, the notice would be published in the daily newspaper by mentioning the special features like type of bonds, amount to be issued, interest rate, maturity period, time limit, procedure and required conditions. This information could also be availed from Central Bank's website. The types of bonds issued are as follows:

(i) Development Bonds

Development Bonds have been issued at face value at pre-determined interest rate. A notice would be published in the newspaper on features like type of bonds, amount, interest rate, issue date, taxable/non-taxable, application time limit and others. The information would also be released on the central bank's website. This instrument is generally issued for a maturity period of 3 years or more for financing development projects having long gestation periods.

(ii) Special Bonds

These are conditional promises to pay a specific sum on specific dates. These instruments are specially issued in the case of sort position in the government's cash-flow. These days, Special Bonds are issued for duty drawback settlement.

(iii) National Saving Certificate and Citizen Saving Certificates

Generally, these are non-marketable and tax exempted debt instruments usually issued for the retail public (household sector). However, the National Saving Certificate and Citizen Saving Certificates in Nepal are marketable as well as taxable securities. These certificates are sold at face value with a pre-determined interest rate. For the issuance of the certificates, a notice would be published in the newspaper announcing the necessary terms and conditions.

2.2 Size and Structure

Table 7.1
Total Outstanding Domestic Debt of the HMG/N

(US$ in Million)

Fiscal Year Mid-July	GDP (Producers' Price)	Total Outstanding Domestic Debt	Debt-GDP Ratio (in percentage)
1998/99	3532.69	619.05	17.52
1999/00	3748.30	685.23	18.28
2000/01	3926.35	758.85	19.33
2001/02	3907.50	938.50	24.02
2002/03	3997.41	1087.47	27.20
2003/04	4047.78	1111.57	27.46

The size of the domestic government debt securities reached to US$ 1,111.57 million in mid-November 2004 as show n in Table 7.1. The composition of domestic government debt is given in Table 7.2.

Table 7.2
Composition of Domestic Debt Securities

(US$ in Million)

Bonds	1996	1997	1998	1999	2000	2001	2002	2003	2004
Treasury Bill	96.5	109.36	124.10	237.67	292.04	373.12	555.50	660.28	669.03
Development Bond	49.62	41.12	44.62	52.33	57.60	80.57	149.86	217.01	239.61
National Saving Cert	99.68	118.06	133.6	140.90	155.76	168.59	155.90	130.13	123.29
Citizen Saving Cert	-	-	-	-	-	-	8.49	12.58	16.10
Special Bond	216.9	216.48	216.70	240.33	237.05	189.11	125.13	123.4	58.00
Total	462.7	485.02	519.02	671.23	742.81	811.4	994.88	1143.84	1106.03

* November 15, 2004.

2.3 Issuers Characteristics

The government debt securities are issued by the NRB on behalf of the government. The private/corporate sector rarely issues the bonds. However, three commercial banks have issued bonds in the market, which is equivalent to US$ 4 million. Very few industries have issued bonds in the market; however, they were not fully subscribed and not traded at the moment.

2.4 Investors Characteristics

The outstanding amount of domestic debt issued by the NRB on behalf of the government is illustrated in the Table 7.3 below.

Table 7.3
Outstanding Government Domestic Debt Securities issued by NRB
(by Holding)

(US$ in Million)

Year	1996	1997	1998	1999	2000	2001	2002	2003	2004
NRB	237.07	244.14	215.74	296.86	282.55	242.56	344.66	320.08	156.84
Com. Banks	102.89	104.56	138.93	171.07	245.63	343.15	400.97	533.36	657.73
Others	122.74	136.32	164.35	201.76	206.37	225.69	253.45	290.39	291.46
Total	462.7	485.02	519.02	671.23	742.81	811.4	994.88	1143.8	1106.0

* November 15, 2004.

2.5 Maturity Structure

Regarding the maturity structure, NRB issues Treasury Bills of 28 days, 91 days, 182 days and 364 days maturities. Meanwhile, development bonds, special bonds and saving certificates are issued for the longer-term period up to 5 years.

Table 7.4
Details of Government Domestic Debt Securities
(by Maturities)
As of Mid-Nov. 2004

(US$ in Million)

Securities	Less than 1 Year	Between 1-5 Years	More than 5 Years	Total
Treasury Bills	669.03	-	-	669.03
Development Bonds	-	108.23	131.38	239.61
National Saving Certificates	-	83.29	40.00	123.29
Citizen Saving Certificates		16.10	-	16.10
Special Bonds	-	55.85	2.15	58.00
Total	**669.03**	**263.47**	**173.53**	**1106.03**

Table 7.5
Payment Schedule of Government Domestic Debt Securities
As on Mid-Nov. 2004

(US$ in Million)

Fiscal Year	Development Bond	National Saving	Special Bond	Treasury Bills	Citizen Saving Certificates	Total
2004/05	7.50	36.46	22.54	537.49	-	603.99
2005/06	38.10	36.86	-	131.54	-	206.50
2006/07	58.47	32.22	5.88	-	8.58	105.15
2007/08	47.95	5.46	24.30	-	4.14	81.85
2008/09	0.09	12.29	2.80	-	3.33	18.56
2009/10	-	-	0.33	-	-	0.33
2012/13	87.50	-	2.15	-	-	89.65
Total	**239.61**	**123.29**	**58.00**	**669.03**	**16.10**	**1106.03**

2.6 Primary Market

The government debt securities are sold for the first time in the primary market. The PDMD of NRB is managing the primary issue of all government debt securities. The Treasury Bills are issued on auction with the sealed bid auction format. However, long-term securities are issued in the face value with fixed coupon on the application basis. Everyone is eligible to participate in the issue unless NRB announces differently. The potential buyers should be physically presented at Public Debt Management Department (PDMD) to apply, buy and receive certificates. The multiple price auction format has been used for the auction of TBs. The uniform price format has been extended to the non-competitive bidders of the TBs. The non-competitive bidders would be awarded up to 15 percent of the notified amount at the weighted average rate of accepted bids.

2.7 Secondary Market

The NRB has initiated a secondary market window for Treasury Bills since the fiscal year 1994/95. Since then, banks and financial institutions are licensed to function as market makers to provide the secondary market floor for long-term government debt securities. The secondary market transaction facilities on TBs could be availed through commercial banks. However, the LMFF prepared by NRB also direct the magnitude of open market operations which is carried by the use of Treasury Bills through Outright Sale/Purchase and Repo/Reverse Repo Auctions.

Table 7.6
Total Outstanding Marketable Government Debt Securities

(US$ in Million)

Fiscal Year Mid-July	External Debt	Domestic Debt		Total Debt
		Marketable	Non-Marketable	
1998/99	2290.08	410.8	208.24	2909.13
1999/00	2576.91	476.99	208.24	3262.14
2000/01	2708.17	601.77	157.09	3467.02
2001/02	2950.80	855.05	83.46	3889.31
2002/03	2999.89	1009.44	78.03	4087.37
2003/04	3348.05	1046.02	65.55	4459.62

The secondary market trading of government domestic debt securities are managed through OTC trading system. However, investors of government securities may buy and sell by endorsement of the securities issued as Promissory Note. At the moment, trading facilities for the government debt securities are not available at the Nepal Stock Exchange. The volume of secondary trading of Treasury Bills is shown in Table 7.7.

Table 7.7
Secondary Trading of Treasury Bills
Mid-Nov. 2004

(US$ in Million)

Particulars	Amount
SLF	317.58
Outright Sale	148.14
Outright Purchase	0.68
Repos	14.34
Reverse Repos	20.48
Total	501.22

3. Bond Market Infrastructure

3.1 Regulatory Framework

His Majesty's Government of Nepal has accepted, in principle, the auctioning of the long-term government securities. Accordingly, for developing the necessary legal framework, a draft on "Primary and Secondary Market Transactions of Government Securities Regulation, 2004" has been submitted for approval by HMG. In order to prepare the basic infrastructure for the issuance of scripless government securities, a concept paper has also been prepared and submitted to HMG/N. Regarding the primary issue and secondary market activities, the NRB has issued a set of regulation to the potential buyers and the market makers.

3.2 Settlement and Clearing System

While the Nepal Rastra Bank has been able to implement international standard practices for domestic debt management and open market operations, data recording and the dissemination system is still poor.. The present data base system for domestic debt management uses a domestically generated software based on spread sheet and does not provide sufficient information for decision making. The processing time for finding particular information from the database is lengthy and there is no online links among with other authorities and departments in the Nepal Rastra Bank.

On book entry system and service accounts, the NRB has started preliminary work on preparing the legal basis for the issuing government securities on book form. In a long-term perspective, a book-entry system is a vital part of the infrastructure needed for an efficient government securities market. Dematerialisation of securities, where bonds issued as paper documents, are replaced by paperless (scripless) securities registered in securities accounts, can facilitate transactions in a quick and cost efficient manner. Scripless securities also protect investors against destruction, theft or forgery which is the risk of holding paper securities. As in the most of developing countries, Nepal also has a legal history based on paper securities. The change is not only a task of drafting new legislation, but also to convince various stake holders that scripless securities is a pre-requisite for the development of the settlement system of government securities transactions.

With the technical assistance of the Asian Development Bank (ADB), the PDMD of NRB has acquired the CSDRMS 2000+ Software (Common Wealth Secretariat Debt Recording and Management System) for versatility in data recording, report generation analysis and online dissemination of debt information to the Ministry of Finance and Financial Comptroller General's Office and enhancing the debt management capacity of the country. The Nepal Rastra Bank plans to use this software for recording transactions of government securities and disseminating reports and required information to various relevant authorities by the use of a radio linked online facility.

It is expected that the use of CSDRMS 2000+ would help immensely in expediting the recording of day-to-day transactions and provide reports without delay that can be analysed duly to make appropriate monetary and fiscal decisions.

3.3 The Role of Rating Agency

There is presently no rating agency in Nepal and hence, the establishment of a rating agency would enhance the development of the debt market.

3.4 Other Pertinent Issues

3.4.1 Auctioning of Government Bonds

The NRB has advised the Ministry of Finance to issue government bonds in the primary market through an auction process to determine the market oriented interest rate.

3.4.2 Listing Bonds at the Nepal Stock Exchange

The government has decided, in principle, to list government bonds on the Nepal Stock Exchange. The legal preparations have been initiated and two new regulations are to be issued; one supplementing the Public Debt Act and the other setting out the trading arrangements. In the present market circumstances in Nepal, medium-or long-term government bonds would be clear candidates for stock exchange listing. The trading of government securities through the stock exchange provides market participants with a further opportunity for price discovery and could contribute to increased activity of the stock exchange.

4. Domestic Bond Market and Central Bank Policies

4.1 Fiscal and Monetary Policy Coordination

Debt sustainability is critical from the central banking perspective. An unsustainable debt level is likely to have a major impact on monetary policy objectives. Thus, the NRB Act, 2002 clearly states that the government's overdraft from the central bank can be only up to 5 percent of the previous year's revenue. The current government borrowing is limited to 2 percent of the GDP. The NRB has also restricted holdings of government debt securities beyond 10 percent of the government's revenue of the previous year.

Following the objective of domestic debt management, the Nepal Rastra Bank is advising the government on the costs and risks associated with government financing requirements and debt levels. The Open Market Operations Committee

(OMOC) is the instrumental forum in the coordination of debt management and monetary policy framework. The OMOC is headed by the Deputy Governor of NRB and supported by a representative (Joint Secretary) from the Ministry of Finance, Executive Directors of NRB's Research Department, Banking and Financial Institutions Regulation Department, Public Debt Management Department, Banking Office of NRB and Directors of Public Debt Management Department.

To ease the debt and monetary management process, the responsibilities of the Ministry of Finance, the Nepal Rastra Bank and Financial Comptroller General's Office are clearly demarcated with regard to debt management policy, undertaking primary debt issues, secondary market arrangements and clearing and settlement arrangements for trading of government securities. The adopted measure for cost and risk is always explained and important aspects of debt management operations are always publicly disclosed. The public is also provided with information on past, current and projected budgetary activities including the financing and consolidated financial position of the government. In every new issue, the risks inherent in the structure of the government's debt have been carefully monitored and evaluated.

As Nepal does not have an autonomous debt management unit as in other developed country, the Public Debt Management Department of the Central Bank is solely responsible for the entire management of issue, servicing and recording of the government's domestic borrowing.

There is no overlapping of responsibilities between the government and the NRB regarding debt management. The budget deficit is purely the function of the Ministry of Finance. However, the NRB may advise the government regarding the quantum of the borrowing that the government could avail. As mentioned in the budget announcement, the NRB would plan the borrowing through the Issue Calendar. Apart from this, the NRB would provide overdraft facilities to the government as prescribed by NRB Act.

An agreement signed between the HMG/N and Nepal Rastra Bank sets out the framework for the scope of the government's domestic borrowing. Both domestic and foreign government borrowings are based on long-term strategies matching the overall objective complying with a prudent degree of risk. In the course of government debt management, the NRB would give emphasis on transparency to the general public and the financial markets.

4.2 Objective and Strategy for Monetary Policy

The primary objective of monetary policy for FY 2004/05 is to maintain price stability and to consolidate the BOP. Inflation is targeted at 4.0 percent while the BOP surplus is projected at Rs. 5.5 billion. With the inflation rate at 4.0 percent, there will be no unnecessary pressure on the current exchange rate of the rupee and the real effective exchange rate will remain at the neutral level. As a result, the competitiveness of the Nepalese goods and services exports will remain favourable. Similarly, if the BOP surplus is maintained at the level mentioned above, the foreign exchange reserves of the NRB will be able to finance merchandise imports of 6.5 months. The target of monetary policy is to maintain the aforesaid objectives at a desired level in order to facilitate an economic growth of at least 4.5 percent in FY 2004/05. In this regard, special emphasis has been given to the implementation of monetary policy strategy for maintaining overall economic stability.

The foreign exchange policy has been taken as nominal anchor of monetary policy, ensuring domestic price stability as well as facilitating economic growth. The objective of monetary policy in conjunction with the pegged exchange rate system is to maintain the real effective exchange rate at a constant level, preventing it from undue appreciation or depreciation.

Monetary and credit aggregates are the intermediate targets of monetary policy. Net domestic assets (NDA) of the NRB and factors affecting reserve money, are taken as the operating target in order to attain the intermediate target of monetary policy. To maintain NRB's net domestic assets within the desired level, open market operations have been strengthened to manage the short-term liquidity of the system. Hence, it is expected that the monetary and financial policy measures would help raise the efficiency of financial intermediation, strengthen the financial sector, ensure overall economic stability and thereby help promote sustained economic growth.

The following instruments have been used to achieve the objective of the monetary policy in Nepal:

- Bank Rate/Refinance Rate
- Cash Reserve Ratio
- Open Market Operation

Government securities can be used as successful means of open market operations. However, due to the dominant role of the government in the decision making process, the NRB rarely uses government securities as most of the time the government does not issue or buy back the securities in the market due to the cost involved.

4.3 Transmission Mechanism of Monetary Policy

The major objectives of monetary policy as spelt out in the NRB Act, 2002 are to achieve domestic price stability, balance of payments stability so as to facilitate sustainable economic growth, financial stability and efficient payment system. It is obvious that the relative focus among the objectives depends on the underlying economic conditions from time to time.

To achieve these objectives, the NRB has put in place monetary aggregates such as narrow money (M1) and broad money (M2) as intermediate targets. The targets are set on the basis of central bank's confidence on their controllability and relatively accurate predictability. To influence the intermediate targets, the NRB uses as operational targets, the net domestic assets (NDA) of the monetary authority's account, a dominating factor in the reserve money and short-term interest rates as operational targets.

The success of targeting mainly depends on the stability of the relationship between intermediate targets, operating targets and final targets and the intensity of influence of exogenous variables both on the operating and intermediate targets. Keeping this in view, the interest rate channel is the most meaningful transmission mechanism of monetary policy in Nepal.

4.4 The Choice of Monetary Policy Instruments

Among the various monetary policy instruments, the cash reserve ratio (CRR) is being used as the prime and effective instrument to inject and absorb liquidity from the economy. The CRR has been used for last few years to reduce the cost of resources of commercial banks and to manage liquidity in the economy. However, its usage has been has been gradually phased out in the neighbouring countries as well as in the majority of the countries in the world in the advent of the prevalent use of indirect monetary instruments and prudential regulatory measures. In this context, the CRR has been reduced in Nepal from 6.0 percent to 5.0 percent for FY 2004/05. This policy change will help in reducing the

financial intermediation cost to some extent. As soon as the existing adverse situation in the country improves, the possible increment in aggregate demand is expected to be supplemented by this provision.

The existing provision of taking the bank rate as an indication of monetary policy stance will continue until the completion of financial sector reform programme and full-fledged development of open market operations. The bank rate has been kept unchanged at 5.5 percent as the price situation has not been fully brought under control and the existing challenge of managing liquidity in the economy for the medium term.

For the last one decade, open market operations (OMO) have been used as flexible short-term monetary instruments. The auction of treasury bills in the primary as well as secondary market and Repo transactions are undertaken as OMO. The NRB, from now onwards will fix the quantities for outright purchase auction, sale auction and Repo auction based on liquidity monitoring and forecasting framework (LMFF) and depending upon the trends of monetary targets. The secondary market interest rate will be determined by the market, based on the quantities fixed for such transactions. Earlier, the commercial banks used to take initiative for open market transactions. From now onwards, the NRB will take initiative on the basis of liquidity position in the economy. This new provision will help in making the process more market-oriented.

The standing liquidity facility (SLF) is provided by the NRB to the commercial banks for 1 to 5 days to meet their short-term liquidity requirement. Currently, the quantity of the SLF is determined on the basis of the ownership of government securities by the commercial banks. The quota of total SLF will be set for each of the commercial banks on the basis of the above-mentioned criterion.

4.5 Benchmark Yield Curve

At the beginning of the current fiscal year 2003/04, the first-ever benchmark yield curve was constructed on the basis of the discount rates derived from 28 days, 91 days, 182 days and 364 days Treasury bills. The yield curve is a graph that shows the yields-to-maturity (on the vertical axis) for treasury securities of various maturities (on the horizontal axis) as of a particular date. A yield curve shows the relationship between yield-to-maturity and term-to-maturity for securities. The curve provides an estimate of the current term structure of interest rates and will change daily as yields-to-maturity change. The yield-to-maturity

of a security is the discount rate that makes the present value of the security's promised future cash flows equal to the current market price of security. The benchmark yield curve has been established to provide a signal of risk-free interest rate to the financial market and offers useful information to investors or fund managers in investment planning, borrowing or lending.

4.6 The Role of Central Bank in Bond Market Development

As in other countries, the Central Bank has a vital role to play in developing the securities market in Nepal. As government securities are not listed in stock exchange, the NRB is managing the primary as well as the secondary market for government securities. There is no separation of monetary management from the debt management function. Thus, the NRB has an very prominent role to play in the development of the government securities market, from one which is traditional to one which is modern based on the following efforts:

- Introduction of effective monetary instruments.
- Promulgation of the legal and regulatory framework.
- Enhancement of market transparency.
- Issue of scripless securities.
- Initiation of secondary market transactions through Stock Exchange.
- Induction of market based pricing system.
- Publicity and market awareness.

The NRB has planned to issue development bond through the auction with multiple price. The participation in this auction may be allowed only to the primary dealers. If individuals, firms, companies and other organisations wish to buy securities, they could do so through the market makers or primary dealers. The NRB shall also list the bonds in the stock market by specifying series number, amount, interest rate, owners description as well as major characteristics of the bonds. After liisting the bonds, the sale and purchase transactions shall be conducted according to the rules on primary issue and secondary market transactions of government bonds, 2061 to the government. Until and unless an alternative arrangement is introduced, the sale and purchase transactions of these long-term bonds would be done under the existing arrangements through licensed market makers.

4.7 Views on Asset-backed Securities

While Nepal has yet to have asset-backed securitisation at the moment, the NRB is planning to promulgate legislation pertaining to asset securitisation.

5. Challenges and Strategies to Develop Well-Functioning Bond Market

5.1 Factors Hindering Bond Market Development

As the bond market in Nepal is in the primitive stage, the authorities still administer the interest rate for long-term government securities. The interest rate derived from the auction of Treasury bills may not always guide the prevailing interest rate of the financial market. The portfolio of investment in government securities would be minimal in the overall asset portfolio of the banks. Their portfolio substitution mostly takes places between money and physical assets rather between money and bonds. The database of the present debt management system is very poor and it is very difficult to collate past data when required.

5.2 Measures/Strategies for Developing Bond Market

5.2.1 Past Efforts/Recent Initiatives

The government could borrow domestically only for financing the budget deficit and redemption of matured debt as per Domestic Debt Act, 2002. The Public Debt Management Department of NRB would ensure that the government's financing needs and its payment obligations are met at the lowest possible cost consistent with the objectives of monetary policy. The overdraft facility from the NRB to the government is limited to the 5 percent of the previous year's government revenue. The current public borrowing through the issue of government securities is limited to 2 percent of GDP. The NRB is allowed to hold government securities up to 10 percent of the revenue collected in the previous government fiscal year. Meanwhile, following measures initiated by NRB in the current fiscal year 2003/04 could be considered as recent important changes in domestic debt securities market:

- The first-ever public announcement of the Issue Calendar for the government debt securities was made in the beginning of current fiscal year;
- Issue of 28 days and 182 days Treasury bills;
- Offloading NRB holdings government securities through auction in the secondary market;

- Conduct of Open Market Operations on the basis of LMFF;
- SLF is initiated to provide temporary liquidity to the investors of government securities; and,
- Commencement of Outright Sale/Purchase of Repo/Reverse Repo on the auction basis.

From FY 2004/05 onwards, Development Bonds of HMG/N will be issued in the primary market by auction and secondary market transactions will be conducted through the Nepal Stock Exchange Limited. These Development Bonds will be issued as coupon bonds via a multiple price auction. As these bonds will be transacted through the Stock Exchange in the secondary market, the NRB will not provide liquidity directly against such bonds. However, an arrangement will be made to accept these bonds as collateral for Repo transactions, to provide standing liquidity facility to the commercial banks.

5.2.2 Measures to Further Develop the Market

The following measures should be initiated to develop the present debt market:

- Increased issue of marketable securities;
- Securities should be allowed to be traded in the secondary market at competitive market oriented price;
- Auction system should be introduced for transactions of long-term securities;
- Scripless securities should be issued (Book Entry Form);
- Placing buy or sell orders through electronic means should be introduced;
- Issuance of new and diversified financial instruments like Insurance Bonds, Pension and Provident Fund Bonds, Municipal Bonds, Floating Rate Bonds and other Special Bonds should be encouraged; and,
- The present database system should be replaced by modern computerised system.

6. Conclusion

The domestic debt market in Nepal is still undeveloped as there is a paucity of debt instruments. The prevailing mechanisms for trading government debt securities are inefficient and unreliable as the authorities still regulate the prices. These weaknesses hamper not only debt management practices but also the monetary management process in Nepal. The debt manager should therefore have an interest in developing market for government debt securities. The

issuance of scripless securities, initiation of auctioning of long-term government debt securities, implementation of market based pricing mechanism and issue of varied securities like insurance bonds, pension bonds provident fund bonds, municipalities bonds and other special bonds would be major steps for strengthening the debt market in Nepal. The launching of an awareness programme on market mechanism, pricing method, types of instruments issued and timing of issue could also help develop the domestic government debt securities market in Nepal. Transparency in debt management practice should be encouraged in the publishing of the domestic debt database on a regular basis and made public through the NRB website.

Chapter 8
Development of the Domestic Bond Market and Implications to Central Banks: Philippines

by
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1. Overview

Government securities comprise the bulk of the Philippines' domestic bond market. Over the past decade, public debt issues have captured more than 90 percent of the market for debt instruments. Private bonds issues are rare, in part, because of stringent issuance requirements in the Corporate Code of the Philippines and also, to some extent, because of the absence of an organised venue for trading private debt securities.

Over the years, reforms were put in place to further the development of the Philippine domestic bond market. In particular, the reform process enabled the government bond market to evolve as a major venue for mobilising long-term funds.

The Bangko Sentral ng Pilipinas (BSP), as the monetary authority and supervisor of the banking system, is firmly committed to the prioritisation of domestic capital market development. A robust capital market complements the banking system in financial intermediation by providing an alternative means of financing the economy. At the same time, it provides greater flexibility in managing and re-distributing the risks in the banking system. A well-functioning financial market also supports the effective conduct of monetary policy by efficiently providing more market-based tools to fine-tune economic activity and enhance price stability consistent with the goals of the inflation targeting framework of the BSP.

1.1 Brief History

The development of the Philippine domestic bond market began in the 1970s when the Philippine Government recognized the need to mobilise domestic savings and provide a base for the development of the long-term capital market. Financial

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reforms intended primarily to liberalise the financial system were introduced and a programme for the rationalisation of the terms and yields of government securities was adopted. Three- and five-year Central Bank Certificates of Indebtedness (CBCIs) were issued, after which medium-term publicly offered corporate issues emerged.

In the early 1980s, the Government initiated financial reforms (e.g., deregulation of interest rates, reduction in reserve requirements, easing of controls on foreign currency transactions) intended to bolster economic growth. However, the impact of these early reforms was dampened by the combined political and economic crisis in 1983 that put further pressure on the Philippine capital market. During this time, the Central Bank of the Philippines (CBP) and the Securities and Exchange Commission (SEC) regulated the issuance of short-term commercial papers to safeguard the interest of investors.

The decade of the 1990s witnessed significant developments in the Philippine capital market, including the establishment of an independent central bank (the BSP) under a new charter, gradual reduction in reserve requirements, liberalisation of foreign bank entry and relaxation of bank branching policies. Reforms in the financial system were put in place to address market concerns regarding the lack of diversified debt instruments, low savings mobilisation, insufficient allocation/ utilisation of financial resources, high intermediation costs and restrictive rules and regulations in banking operations. Complementing the liberalisation of the financial market were reforms that led to the emergence of the government bond market as a major venue for mobilising long-term funds:

a) government securities were made eligible as reserves against deposits;
b) broadening the investor base with the granting of more licenses for primary dealers;
c) introduction of small-denominated securities that appeal to retail investors;
d) introduction of government securities with longer maturities; and,
e) improvement in the infrastructure of the government securities market with the automation of the auction process and the introduction of the Registry of Scripless Securities (RoSS).

Starting 2000, the Bureau of the Treasury (BTr) issued longer maturities and introduced special issuances to satisfy specific investor preferences. In 2002, BTr offered retail treasury bonds, fixed rate promissory notes, dollar-linked peso notes (DLPN) and special purpose T-bonds to finance both the budgetary and non-budgetary deficits of the government.

However, while the government securities market flourished, the absence of an organised venue for trading securities has hindered the development of the corporate debt securities market, making private securities a less liquid instrument to hold and at greater cost to trade. Thus, investors typically buy securities and hold them to maturity because of the illiquid secondary market.

1.2 Types of Debt Instruments

1.2.1 Public Debt Issues

The National Government issues two kinds of government securities, Treasury bills (T-bills) and Treasury bonds/notes (T-bonds/notes)—are issued by the BTr for sale to the investing public through a network of licensed dealers. *T-bills* are government securities that mature in less than a year and are structured in three tenors: 91-day, 182-day and 364-day T-bills. Cash Management Bills are T-bills with tenures not more than 91-days (e.g., 35-days and 42-days). *T-notes/bonds* are obligations that mature beyond one year. Issuances of Floating Rate Treasury Notes (FRTNs) dominated the market until 1994 when Fixed Rate Treasury Notes/Bonds (FXTNs/FXTBs) were issued in light of the volatile movement of interest rates which adversely affected interest payments and consequently, the predictability of the Government's fiscal position. Since then, only FXTNs/FXTBs have been issued with maturities of 2, 5, 7, 10, 20 and 25 years. Majority of the outstanding GS now carry fixed interest rates.

Government agencies, local governments and government-owned and controlled corporations (GOCCs) may float securities to finance priority projects, but these are not labeled as Treasuries. Securities issued by municipal or local government units (LGUs) are called *LGU Bonds*.[2] Meanwhile, debt instruments issued by government-owned and-controlled corporations are generally referred to as *GOCC bonds*.

1.2.2 Private Debt Issues

Private or corporate debt issues consist of debt securities issued mainly by commercial banks and private corporations, which are in the form of a certificate that states the terms and conditions of the borrowing.

2. With the passage of the Local Government Code of 1991, the financing options of the LGUs for infrastructure and other development projects have expanded. LGUs can now seek private sector support via direct loans, by issuing bonds available for private investors, or by entering into build-operate-transfer (BOT) or joint venture arrangements.

Banks tap the market most frequently for short-term financing. Bank-related borrowings are mostly in the form of interbank call loans, bankers' acceptances, certificates of deposits and repurchase agreements. *Call loans or call money* are overnight placements by banks with excess cash in other banks with temporary reserve deficiencies (i.e., they represent a bank-to-bank lending of reserves). *Bankers' Acceptances* (*BAs*) are short-term debt obligations guaranteed by large commercial banks. *Certificates of Deposits* (*CDs*) are short-term negotiable instruments issued by banks for a fixed duration of 1-12 months at a pre-agreed interest rate. These certificates are a significant source of funding for commercial banks. *Repurchase Agreements (Repos)*, on the other hand, are generally short-term borrowing by banks against government securities of similar value (with an agreement to repurchase on the agreed maturity date), which is extensively used as a means of short-term financing by government securities dealers and by banks. Repos may be transacted between banks or between a bank and the BSP.

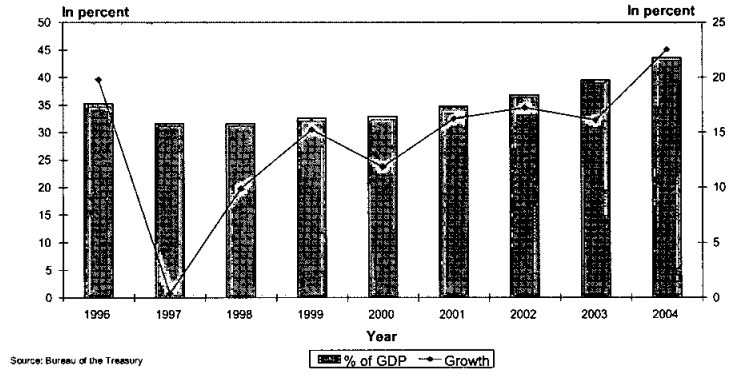
Non-bank corporate issuances, on the other hand, are mostly in the form of commercial papers and corporate bonds. A *commercial paper* (*CP*) is a written evidence of indebtedness of any corporation registered with the SEC—usually a large, well-known firm with good credit rating. These can be short-term in nature (STCP) or of longer maturity (LTCP). *Corporate bonds* are long-term promissory notes given under seal, usually as part of a mass borrowing arrangement. Asset- or mortgage-backed securities (ABS/MBS) have also on occasion, been issued.

2. Recent Developments in the Domestic Bond Market

2.1 Size of the Market

From 35.2 percent of GDP in 1996, outstanding domestic debt securities (government and private) reached 43.5 percent of GDP in 2004. Developments that weighed down on the Philippine debt market included the Asian financial crisis in 1997-98, political uncertainty brought about by the impeachment trial of former president Joseph Estrada in 2000, and higher cost of financing due to high interest rates in 2003. In recent years, capital market reforms being instituted by market stakeholders have underpinned the steady growth of the domestic capital market as it has gained relative importance in financing the economy.

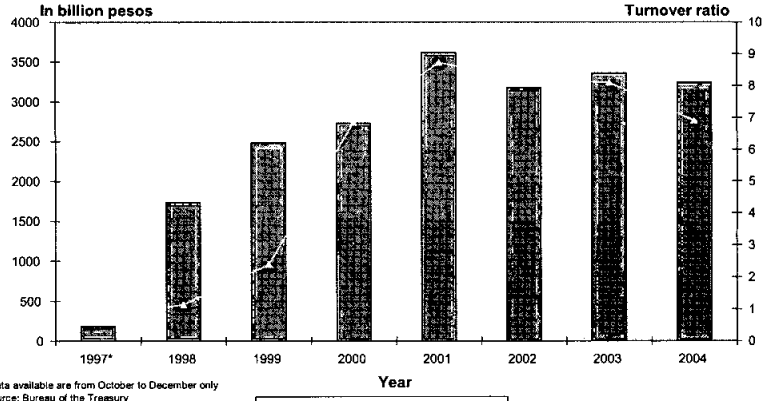
Table 8.1: Size and Growth of the Philippine Domestic Debt Market, 1996-2004



Source: Bureau of the Treasury

Since the introduction of the RoSS in 1997, secondary market transactions of government securities recorded under the RoSS increased from US$6.3 billion in 1997 to US$57.8 billion in 2004 while turnover ratio[3] improved significantly from 0.7 in 1997 to 6.8 in 2004.

Table 8.2: Secondary Market Liquidty, 1997-2004



*Data available are from October to December only
Source: Bureau of the Treasury

3. Computed by the BTr as follows: [(Total purchases and sales in the secondary market/Beginning balance + End balance)] * 2.

2.2 Issuer Characteristics

2.2.1 Government Issuances

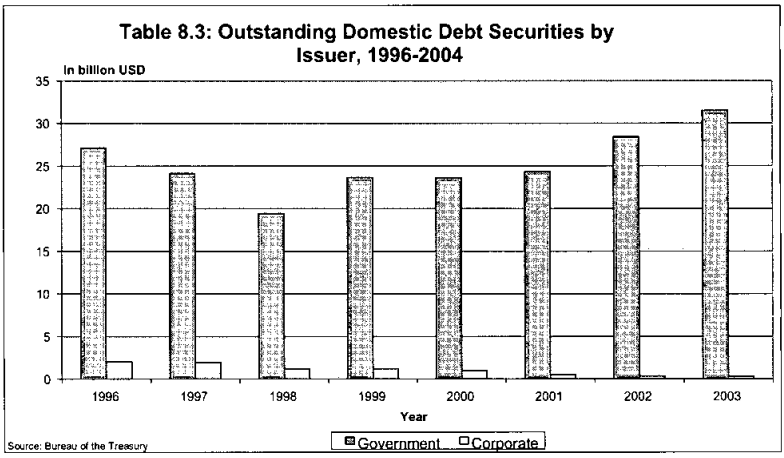
Outstanding government securities accelerated steadily during the period 1996 to 2004 with the introduction of GS with longer maturities and as the fiscal balance deteriorated starting 1998.

Treasury issues made up the bulk of government securities from 1996 to 2004. Other bonds/notes such as zero-coupon T-bonds follow Treasury issuances until 2001 when special issues (e.g., retail T-bonds, small-denominated T-bonds, FX promissory notes, US dollar-linked peso notes, etc.) became the second biggest issuances after Treasuries. Government corporate issues made up a small portion of the government securities market while LGU bonds comprised an even miniscule portion of the market.

2.2.2 Private Sector Issuances

Due to the general stability of the political and economic environment prior to the Asian financial crisis, the level of outstanding private securities exhibited an increasing trend. However, levels declined after 1997 as the market's appetite waned due to the increasing economic uncertainty and as the BSP clamped down on domestic liquidity to deter currency speculators. Thus, from a peak of US$2.0 billion in 1996, outstanding private sector debt securities fell to just US$1.9 billion by 2004.

The market for securitised assets remains thin. Since the first issuance of mortgage-backed securities in 1991, there have only been a limited number of asset- or mortgage-backed securities issuers. The relatively narrow market has been traced to inadequate infrastructure, financial taxes, and high transactions cost as well as concerns about the quality and risks of asset-backed securities as financial instruments. The underdeveloped market for securitised assets constrains liquidity in the primary and secondary markets. A major development in the market for securitised asset was the issuance of asset-backed securities by the Metro Rail Transit (MRT) III Funding Corporation in 2003. The government hopes that the passage of the Securitisation Act of 2004 will revive interest in the issuance of these types of instruments in the market.



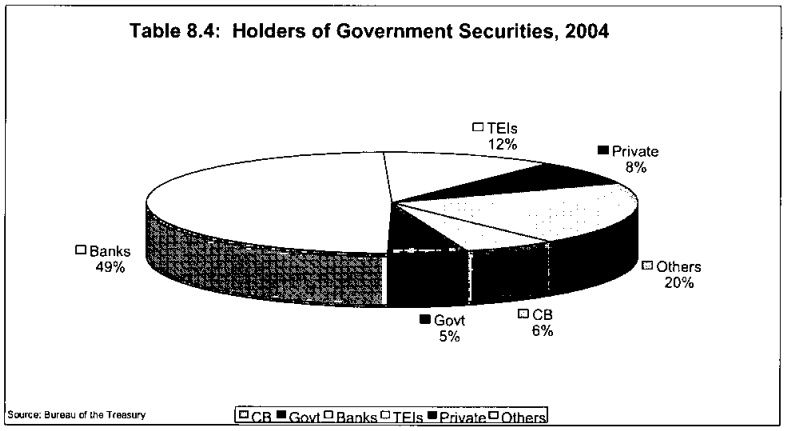
2.3 Investor Characteristics

As of 2004, the main investors in the GS market (by size of holdings) are: banks (government and private), tax-exempt institutions (TEIs) such as the Government Service Insurance System (GSIS) and the Social Security System (SSS), private non-bank corporations, the BSP, and government-owned and controlled corporations.

In the conduct of open market operations, and in accordance with its primary objective of achieving price stability, the BSP participates in the money market by buying (or selling) government securities and/or engaging in reverse repurchase transactions with banks to affect the money supply.[4] Its ultimate responsibility for the money supply makes the BSP an influential participant in the money market.

Non-residents are likewise allowed to invest their funds in certificates of indebtedness issued directly by the National Government or by its political subdivisions, agencies and instrumentalities, as well as in money market instruments. Registration of inward investment with the BSP is required only if the foreign exchange needed to service the repatriation of capital and remittances of dividends and profits from these investments is to be funded through the banking system. Full and immediate repatriation is permitted without restriction on all foreign investments registered with the BSP.

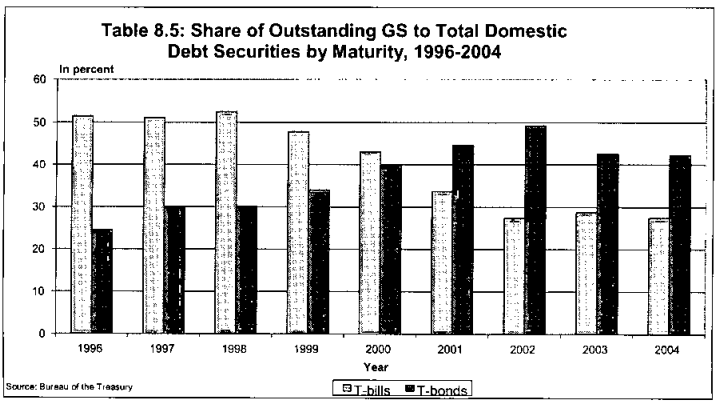
4. There are no legal restrictions prohibiting the BSP from participating in the primary auction for GS. However, being a member of the Auction Committee, the BSP has made it a policy not to make purchases during primary auctions.



2.4 Maturity Structure

T-bills dominated the GS market from 1996-2000, amidst a period of large chronic deficits and high inflation. However, the share of T-bills in the total outstanding domestic GS began declining from 51.4 percent in 1996 to 43.0 percent in 2000 and further to 27.4 percent in 2004, as a result of Government efforts to restructure the maturity profile of the government debt market in favour of longer-term securities. In the T-bond market, the medium-term 5-year FXTB is the most liquid instrument.

The issuance of longer-term GS was intended to help deepen the capital market, reduce administrative costs that are normally associated with frequent roll-overs of short-term debt instruments, help BTr improve its cash management operations, and help establish a long-term benchmark yield curve for the GS market.



3. Bond Market Infrastructure

3.1 Regulatory Framework

The SEC, the BSP and the Department of Finance (DOF) all regulate different aspects of the Philippine debt securities market.

The *SEC* has jurisdiction over all corporations, partnerships and associations in the Philippines. It licenses, registers, supervises and regulates companies and keeps their public records. The SEC also has oversight function over the Philippine Stock exchange (PSE) and over-the-counter securities trading, as well as over all other participants in the securities industry, including brokers, dealers and underwriters. The SEC also administers the Securities Regulation Code (Republic Act No. 8799), which provides the comprehensive regulatory framework on the issuance and trade of securities, securities trading exchanges and intermediaries such as traders and underwriters. No securities may be sold or offered for sale or distribution to the public unless such securities are registered with the SEC.

Since the transfer of the fiscal functions of the *BSP* to the BTr,[5] in 1995, only securities issued by the banks and institutions that the BSP supervises now come under its purview. Meanwhile, under the authority of the *DOF*, the BTr regulates the terms, methods and conditions for the issuance of Treasury securities, as well as supervises and monitors the process of issuing, holding and administration of these instruments.

The DOF is responsible for the review, approval and management of all public sector debt, whether foreign or domestic, to ensure that all borrowed funds are effectively utilised and all such obligations can be promptly serviced by the NG. However, the NG and its agencies are required to seek the opinion of the BSP for any credit operation abroad to determine the monetary implications of the proposed issuance.

3.2 Settlement and Clearing System

In 2001, the BSP began improving the payment and settlement system with the development of a real time gross settlement (RTGS) system to enhance the

5. All the fiscal functions previously carried out by the BSP in the trading of GS were transferred to the BTr in 1995, as provided for under the New Central Bank Act of 1993. These functions include the auction of government securities as well as the accreditation and evaluation of government securities dealers.

operational efficiency, reliability, speed and timeliness of payment and settlement transactions. The Philippine Payment System-Real Time Gross Settlement (PhilPaSS-RTGS), a fully-automated online system that settles clearing and payment transactions on real-time basis was officially launched in December 2002 and became operational in 2003. The RTGS is intended to cover transactions in the equities, fixed income, money and foreign exchange markets. The system is now on its third phase with the live implementation of delivery versus payment (DvP) for transactions on secondary trading of government securities beginning August 2004. Under Phase 3, the BSP is allowed to handle custodianship of government securities.

Settlement of trades is the payment process both in the primary and secondary markets for government securities. Government securities are settled through the RoSS. With the signing of the memorandum of agreement on BTr's participation in the DvP under the PhilPaSS-RTGS on 5 July 2004, the risk that settlement in a transfer system will not take place is greatly reduced since settlement of interbank transactions is done almost simultaneously. DvP looks into the banks' deposits with the BSP side-by-side with their IOU holdings with the BTr's RoSS. The electronic system transfers securities from the seller's to the buyer's RoSS account only if a corresponding payment is deposited in the seller's BSP account. The live implementation of DvP for transactions on secondary trading of government securities started on 23 August 2004. Meanwhile, corporate bonds are cleared through a separate DvP system between the institutions.

3.3 Rating Agencies

In the Philippines, securities which will be offered for sale to the public are required by the SEC to secure a credit rating from a qualified rating agency. Issuers are thus required to submit a credit rating report together with their registration statement, for purposes of evaluation and/or the guidance of investors. Moreover, issues being traded at the PSE are similarly required to be periodically rated while the issue remains outstanding. Government issuances are exempt from this particular requirement.

The inadequate credit rating capacity in the Philippines stems from the lack of skilled technical staff and poor availability, accuracy, timeliness and regularity of corporate and government data. Insufficient ratings capacity constitutes a binding constraint to bond market development primarily because it raises the

inherent risks in bond investments in general, reducing the demand for bonds. The mandatory rating requirement for all bond issues aims to increase transparency for all bond issues and induce demand for ratings services to make it a more profitable venture.

The Monetary Board (MB) has approved rules and regulations that govern the recognition and derecognition by the BSP of domestic credit rating agencies for bank supervisory purposes. The BSP has also recognised internationally accepted credit rating agencies (CRAs) to undertake local and national ratings for bank supervisory purposes. At present, the BSP has recognised two credit rating agencies: the Philippine Rating Services Corporation (Philratings) and Fitch Singapore Pte. Ltd.

4. Domestic Bond Market and Central Bank Policies

4.1 Fiscal and Monetary Policy Coordination

In the Philippines, the fiscal function of issuing treasury bills and bonds is lodged with the Department of Finance (DOF) through the Bureau of the Treasury. The BTr is an attached agency of the DOF which exercises independence in the areas of domestic debt issuance, cash and debt management. However, the placing, servicing, selling and redeeming of securities remain the responsibility of the DOF. The Auction Committee, which oversees the sale of government securities in the primary market, is composed of representatives from the BTr, DOF, BSP and SEC and is chaired by the DOF. The process of domestic debt issuance in the Philippines involves: a) internal approval from the BTr and DOF; b) legal clearance from the Department of Justice (DOJ); c) tax clearance, if necessary; d) full backing of the Office of the President; and e) BSP opinion on monetary implications of the bond issuance.

The independence of the BSP is mandated by law through R.A. 7653. Section 1 of the New Central Bank Act states the Declaration of Policy: "The State shall maintain a central monetary authority that shall function and operate as an independent and accountable body corporate in the discharge of its mandated responsibilities concerning money, banking and credit. In line with this policy, and considering its unique functions and responsibilities, the central monetary authority established under this Act, while being a government-owned corporation, shall enjoy fiscal and administrative autonomy."

Fiscal autonomy entails full flexibility to allocate and use the BSP's resources while administrative autonomy enables the BSP to discharge duties and conduct operations independent from other branches of government.

In addition, the BSP's fiscal autonomy puts in place enough institutional safeguards against excessive deficit financing and seigniorage that help ensure the BSP's independence from fiscal sector constraints. Philippine laws prescribe stringent limits on the extent of financial assistance that the BSP may extend to the National Government. R.A. 7653, for example, sets out clear limits on the BSP's financial assistance to the National Government, which normally takes the form of withdrawals by the NG from its deposits with the BSP. Of the total outstanding NG deposit balances with the BSP, about P50 billion is considered "restricted" deposits in that they may not be withdrawn pursuant to a Memorandum of Agreement (MOA) signed between the BSP and the NG in 1993. Moreover, Section 89 of the Act states that "the BSP may make direct provisional advances with or without interest to the National Government to finance expenditures ... provided, that said advances shall be repaid before the end of three (3) months ... and shall not, in their aggregate, exceed twenty (20) percent of the average annual income of the borrower for the last three (3) preceding fiscal years."

Coordination of fiscal, monetary and exchange rate policies is undertaken through the Development Budget Coordination Committee (DBCC). The Secretary of the Department of Budget and Management chairs the DBCC. DBCC members include the DOF, Planning Agency (National Economic and Development Authority), Office of the President, and the BSP. The DBCC meets regularly to set up government targets based on macroeconomic assumptions generated by the different branches of government.

4.2 Objective and Strategy of Monetary Policy and the Role of Bond Market Development in Transmission Mechanism

The primary objective of BSP's monetary policy is to promote low and stable inflation conducive to a balanced and sustainable economic growth. The adoption of the inflation targeting framework is aimed at achieving this objective. On 24 January 2000, the BSP's policy-making body, the Monetary Board, approved in principle the shift to inflation targeting as a framework for conducting monetary policy. Inflation targeting focuses mainly on achieving price stability as the ultimate objective of monetary policy. This approach entails the announcement of an explicit

inflation target that the central bank promises to achieve over a given policy horizon. The target inflation rate will be set and announced jointly by the BSP and the government through an inter-agency body, although the responsibility of achieving the target would rest primarily on the BSP. This would reflect an active government participation in achieving the goal of price stability and greater government ownership of the inflation target. The BSP formally adopted inflation targeting as the framework for monetary policy starting 2002.

Bond market development aids in the smooth transmission mechanism of monetary policy by providing liquidity in the market. Liquidity is an important element in the proper pricing of risk. In a liquid bond market, yield curves reflect the varying degrees of risks associated with debts of different maturities and provide a signal of price expectations which eventually factors into actual price levels. Liquidity improves the transmission mechanism of monetary policy because if a market is liquid, transactions can easily take place with little impact on prices. In this sense, bond market development facilitates the smooth transmission mechanism of monetary policy.

4.3 The Choice of Monetary Policy Instruments

The BSP conducts monetary policy using various instruments to achieve the desired level of money supply. To contract or expand money supply, the BSP can do any or a combination of the following actions: a) increase/decrease the reserve requirement; b) increase/decrease its rediscount rate on loans extended to banking institutions on a short-term basis against eligible collaterals of banks' borrowers; c) borrow from/lend to banks using government securities as underlying securities; and d) outright sale/purchase of the BSP's holdings of government securities.

Consistent with the BSP's inflation targeting framework, the operating target of monetary policy is the inflation forecast. The BSP sets its policy rates—the overnight RRP or borrowing rate, and the overnight RP or lending rate—to steer inflation forecast towards the target. The policy rates set by the BSP are based primarily on the outlook for inflation over a two-year time horizon, which is the estimated length of the lag of the full impact of monetary policy actions on inflation and output growth. The BSP also considers other factors in the setting of its policy interest rates including the developments in the real economy (both domestic and external), exchange rate, asset prices, financial market, monetary aggregates and other indicators of the public's expectations.

4.4 Benchmark Yield Curve

A critical element in the development of the benchmark yield curve is a liberalised interest rate environment where interest rates are determined by market forces. During the 1980s, the combined political and financial crises have hampered the development of the long end of the yield curve for government securities. For this reason, the Philippine government undertook to deregulate interest rates during the decade. Meanwhile, the issuance of 2-, 5-, 7-, 10-, 20-, and 25-year fixed-rate treasury bonds/notes in the 1990s was aimed towards providing a benchmark for the pricing of similar term private sector instruments. This has resulted in a longer-yield curve for public sector debt to provide the needed variety and various degrees of liquidity in the market.

For government securities, the Bankers Association of the Philippines (BAP) has come up with a Bloomberg page where the market can view fixing rates for benchmark tenors. These fixing rates are derived from various bid quotes submitted by selected contributor banks. Fixing rates are normally based on done transactions. In the absence of done deals, the fixing rates are computed based on the average of the top 60 percent of bids submitted.

4.5 Asset-Backed Securities

Executive Order No. 90 sets the foundations for the issuance of ABS in the Philippines. The first private placement was launched in 1992 while the public securitisation programme took off the following year. Further issuance in the succeeding years was generally hampered by poor asset quality and unfavourable market conditions.

The BSP supports efforts aimed at developing the asset-backed securities market in the Philippines. The passage of the Special Purpose Vehicle (SPV) Act of 2002 and its companion law, the Securitization Act of 2004, were designed to spur foreign investment and enhance the development of Philippine financial markets.

The Special Purpose Vehicle (SPV) Act of 2002 is intended to help banks dispose of their non-performing assets (NPAs) and replenish their loan portfolios with fresh capital. The Law seeks to provide tax incentives to encourage/facilitate private investment in the NPAs of Philippine banks by waiving some of the taxes and reducing fees collected in the sale or transfer of assets. The SPV Law

waived the documentary stamp tax, capital gains tax and expanded value added tax (EVAT) and reduced the applicable registration and transfer fees by 50 percent.

Meanwhile, the Securitization Act of 2004 sets the legal and regulatory framework for the sale of assets like loans, mortgages, receivables and other debt instruments as new securities to raise capital, thus creating a favourable market environment toward the development of the secondary market for these securitised assets. The law is expected to expand the menu of existing instruments available to investors and provide an avenue for portfolio diversification as well as generate more funds for both the private and government sectors.

The implementation of the law requires the creation of special purpose entities (SPEs), which shall be solely organised and operated for purposes of securitisation, and secondary market institutions (SMIs) which shall be responsible for providing the liquidity mechanism to primary mortgage lenders/holders. One important feature of the new law is the elimination of transaction taxes or friction costs in the securitisation process.

The SEC has submitted the final draft of the proposed Implementing Rules and Regulations of the Securitization Act to Congress in order to formalise the guidelines in the implementation of the law.

5. Challenges and Strategies in Developing the Bond Market

Despite the progress achieved in promoting the development of the domestic bond market, some issues remain. Concerns that need to be addressed in order to facilitate bond market development and recent measures to address these include:

5.1 Improvement of Credit Risk Pricing

The insufficient credit ratings capacity in the Philippines is an impediment to bond market development. To address this concern, the BSP issued the guidelines for the recognition/derecognition of domestic and international credit rating agencies to meet the growing needs for credit rating services by both the financial industry and regulators. The need evolved following the introduction of new financial products in the local market. The new rules also laid down the grounds for derecognition of rating agencies, under certain circumstances, including involvement in insider trading, unfair competition and ratings blackmail.

5.2 Enhancing Market Efficiency and Liquidity

The prevailing dearth of corporate bond issues in the market stems largely from the lack of a critical market infrastructure to facilitate primary and secondary market trading. The establishment of the Fixed Income Exchange (FIE) is expected to boost market liquidity and the price discovery mechanism for the secondary trading of domestic debt and other fixed income securities. To date, the FIE has yet to commence actual operations pending the completion of other regulatory requirements (i.e., submission of rules on interbank market trading, rules on the retail market investor).

5.3 Designing More Innovative Instruments

The lack of innovative and diversified financial products in the market leaves investors and intermediaries with limited investment choices. The availability of a wide array of financial products is expected to stir market activity by way of greater market depth, breath and liquidity. It also enables the market to broadly satisfy investors' diversified appetite for risk. The development of the capital market, therefore, should embody the introduction of new financial products and investment instruments to deepen the market and transfer risk to entities best placed to bear them. To support greater use of new and improved financial products, the BSP has issued directives to govern the financial derivatives activities of banks, non-banks with quasi-banking functions and their subsidiaries/affiliates. In particular, Circular No. 297 dated 17 September 2001 outlined the scope and pre-qualification requirements for the grant of authority to engage in derivatives activities with due emphasis on adequate risk management systems of applicant institutions.

5.4 Broadening the Investor Base to Attract a Wider Array of Investors

The Philippine domestic bond market is characterised by a narrow investor base limited to a few institutional investors. As an initial step to address this issue, the Revised Investment Company Act (RICA) has been included in the proposed legislative and regulatory reform agenda of the 13th Congress. The RICA aims to further diversify the investor base in the Philippines by eliminating restrictions over foreign ownership of investment companies. It also opens the mutual fund business to foreigners by allowing a foreign mutual fund to sell securities provided that a portion of the funds raised from any public offer shall be invested in the Philippines. The enhancement of investor base in the corporate

bond market will help decrease the cost of finance and increase the depth of the market.

5.5 Taxation

The friction cost of issuing debt instruments associated with documentary stamp taxes (DST) presents a significant impediment to the investing public. Their imposition not only reduces the expected yields or returns to investment but also presents a market hindrance to prospective investors/bondholders from buying/selling their securities in the secondary market.

On 17 February 2004, R.A. No. 9243 was passed into law which paved the exemption from the DST of all frequently traded instruments. Prior to the enactment of the law, the DST is paid according to the frequency of transactions of capital market instruments. Such imposition creates a cascading effect that distorts pricing and makes financial intermediation costly, creating a disincentive to secondary trading. The removal of the DST on secondary trading is expected to encourage the development of the secondary market for traded instruments and increase tax revenues with more transactions and capital market instruments issued and traded in the market.

5.6 Recent Initiatives of the BSP

To complement earlier initiatives on capital market development, the BSP pushed for several measures to assist in building the necessary infrastructure to help deepen the Philippine capital market:

- The BSP required banks and non-bank financial institutions under its supervision to entrust securities of their clients to a BSP-accredited third party custodian who will have sole responsibility in the handling and safekeeping of debt securities. This is intended to ensure that all transactions being undertaken in the market are backed-up by corresponding debt instruments. The BSP has accredited 5 banks and 1 non-bank financial institution to act as third party custodians.

- To align the operation of pooled funds under management by trust entities with international best practices and enhance their credibility with retail investors, the BSP issued a directive paving the way for the creation of unit

investment trust funds (UITFs) by authorised trust entities. Under the new rules drawn up by the BSP, funds accepted as investments in trust can only be placed in liquid investments and tradable financial instruments. To promote UITFs, the directive exempts UITFs from the provisions on reserves, single borrower's limit and DOSRI requirements.

- To allow greater portfolio diversification, banks have been allowed to invest in innovative financial products that include structured debt, collateralised debt obligations and credit derivatives.

- The BSP is intensifying coordination with other financial regulators to promote consistency in financial regulations. To this end, the Financial Sector Forum (FSF) was established in July 2004 composed of the BSP, the Securities and Exchange Commission (SEC), the Insurance Commission (IC) and the Philippine Deposit Insurance Corporation (PDIC). The financial regulators have agreed to coordinate and issue uniform regulations or circulars in order to effectively improve supervision and regulation among their constituencies especially on areas where their functions overlap.

- To help develop domestic as well as regional bond markets in Asia, the BSP, together with ten other central banks and monetary authorities in the East Asia and Pacific region comprising the Executives' Meeting of East Asia and Pacific Central Banks (EMEAP)[6] launched the second stage of the Asian Bond Fund, the ABF2, in December 2004. The ABF2, which will invest in domestic currency bonds issued by sovereign and quasi-sovereign issuers in EMEAP economies (except Australia, Japan and New Zealand), builds further on the successful launch of the ABF1 in June 2003, which invested in US dollar-denominated bonds issued by sovereign and quasi-sovereign issuers in the eight markets. The BSP believes the ABF2 will play a catalytic role in promoting new products, improving market infrastructure and minimising regulatory impediments.

6. The EMEAP comprises the following: Reserve Bank of Australia, The People's Bank of China, Hong Kong Monetary Authority, Bank Indonesia, Bank of Japan, Bank of Korea, Bank Negara Malaysia, Reserve Bank of New Zealand, Bangko Sentral ng Pilipinas, Monetary Authority of Singapore and Bank of Thailand.

6. Conclusion

The importance of bond market development cannot be overemphasised. Its development is deemed a critical pre-condition to achieving stability in the financial system. More importantly, building a strong domestic bond market is essential in mobilising stable large scale financing to support a growing economy through more sustainable savings and investments. In the face of the evolving trends in bond market development, it is important that appropriate policy responses be instituted to harness its growth as well as address remaining impediments.

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Appendix 8.1
Outstanding Domestic Debt Securities, 1996-2004
End of period
In billion pesos

Debt Securities	1996	1997	1998	1999	2000	2001	2002	2003	2004
A. Levels									
Government Securities	711.2	711.0	794.8	924.9	1,043.1	1,238.9	1,465.8	1,706.0	2,001.4
T-bills	393.3	392.2	442.1	464.7	467.3	425.4	405.2	496.0	577.6
Fixed Rate T-bonds	186.5	227.6	253.9	330.6	434.5	563.5	730.0	731.0	888.3
Special Issues	0.0	0.0	0.0	30.3	38.3	136.3	218.8	360.7	368.7
Other Notes/Bonds	126.4	85.3	91.7	92.7	92.8	92.7	93.0	98.0	117.4
GOCCs	4.9	5.9	7.0	6.6	10.3	21.0	18.8	20.3	30.7
Corporate Securities	53.6	56.6	48.8	47.5	44.6	25.4	16.5	111.1	107.3
Bonds & Others	0.6	0.1	0.1	n.a.	n.a.	n.a.	3.0	4.0	3.0
Asset-Backed Securities	1.5	1.5	1.0	n.a.	n.a.	n.a.	n.a.	96.1	97.4
Commercial Papers	51.5	55.0	47.7	47.5	44.6	25.4	13.5	11.0	6.9
Short-Term	5.9	4.7	3.4	2.0	1.7	0.3	0.3	4.1	1.1
Long-Term	45.6	50.2	44.3	45.5	43.0	25.0	13.2	6.9	5.8
Total	764.8	767.6	843.6	972.3	1,087.7	1,264.3	1,482.3	1,720.9	2,108.7
B. As Percent of Total									
Government Securities	93.0	92.6	94.2	95.1	95.9	98.0	98.9	99.1	94.9
Corporate Securities	7.0	7.4	5.8	4.9	4.1	2.0	1.1	0.9	5.1
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
C. As Percent of GDP									
Government Securities	32.7	29.3	29.8	31.1	31.5	34.0	36.4	39.1	41.3
Corporate Securities	2.5	2.3	1.8	1.6	1.3	0.7	0.4	0.3	2.2
Total	35.2	31.6	31.7	32.7	32.9	34.7	36.8	39.5	43.5
GDP (in billion pesos)	2,171.9	2,426.7	2,665.1	2,976.9	3,308.3	3,640.0	4,022.7	4,359.0	4,843.5
Average ₱/US$	26.2157	29.4707	40.8931	39.0890	44.1938	50.9927	51.6036	54.2033	56.0399

Note: Totals may not add-up due to rounding

Sources: Bangko Sentral ng Pilipinas, Bureau of the Treasury, Philippine Rating Services Corporation, Securities and Exchange Commission

Chapter 9
Development of Domestic Bond Market and its Implications for the Central Bank: The Sri Lanka Experience

by
C.J.P. Siriwedana[1] /

1. Overview

Sri Lanka has made considerable progress in developing the domestic debt market after the commencement of market based development strategy in 1977. During the early stage, more attention was paid to improve the short-term debt securities market through the development of the government's Treasury bill market. This process included the widening of non-bank investor base, improvements in market infrastructure and making the required changes to the legal and regulatory framework. The development of the short term debt securities market has created a conducive environment for the successful issuance of medium and long term marketable bonds in the domestic market.

The bond market[2] in Sri Lanka commenced its active operations in 1990's with the issuance of medium and long-term bonds, both by the government and the corporate sector. This process has been accelerated in line with the financial sector reforms and restructuring programme in the recent past. The debt management policy of the government has substantially reformed by shifting from issuing non-marketable instruments (such as Rupee loans) and short-term marketable instruments (such as Treasury bills) to medium and long-term marketable instruments. As a result, the government introduced a long-term marketable and fixed income type new debt instrument; Treasury bond in 1997 to raise funds from the domestic market to finance the government budgetary operations. Subsequently, government borrowings through non- marketable instruments and short-term marketable instruments have been gradually reduced over the period. Furthermore, the government has exercised the early retirement facility or 'call option' of the existing stock of non-marketable securities to convert them to Treasury bonds to accelerate the development of the bond market. The gradual increase of the maturity structure of the Treasury bonds up to 20 years

1. The author is Deputy Director of the Economic Research Department of the Central Bank of Sri Lanka. The views expressed in this paper are the author's own and do not necessity reflect those of the Central Bank of Sri Lanka.

2. As agreed at the SEACEN Research Workshop in Penang, this paper focuses on bonds issued by the government and the corporate sector with maturity over one year.

enabled the market to establish a long-term yield curve which has provided a benchmark for the domestic corporate bond market.

Concomitant to this programme, steps have also been taken to develop the market infrastructure. These include the improvement of primary and secondary markets, computerisation of market infrastructure and improvement of payments and settlements systems. The required reforms have also been brought into the legal framework, appropriate to the development of the bond market for the smooth transformation towards the market based debt management. The monitoring and regulatory work at the central level was strengthened by the authority, in order to ensure the safety and security of investment made by the public. The authority's continuous commitments on this process and fairly developed domestic money market operations helped develop the bond market, specially government bond market within a relatively shorter time period.

Although, a more active market exists for government bonds, the corporate bond market is still at an under-developed stage. The government has recognised the importance of developing the corporate bond market to diversify the funding sources in order to reduce the high reliance on the banking system and the equity market. Further, it would lower the vulnerability of the corporate sector to unforeseen forces as experienced by some of Asian countries during the Asian Financial Crisis. In this regard, a number of policy measures have been implemented with a view of developing the corporate bond market. They include mandatory requirement of credit rating and publication of such rating for all varieties of debt instruments, registration requirement of all corporate bonds, entrust regulatory functions of corporate bonds to the Colombo Stock Exchange (CSE) and providing facilities to trade corporate bonds in the stock market. This development process has to be continued with a well designed awareness programme to educate both corporate players and investors about the important role that could be played by the bond market providing alternative options for investors to invest their savings and for corporate players to reduce the vulnerability to the system risks by diversifying their alternative funding sources.

In Sri Lanka, the Central Bank has been acting as the agent of the government in public debt management since its inception, mainly with regard to domestic debt, in addition to its prime role of monetary management. The deficit budgetary policy, which has been adopted by the government since the re-independence in 1948 and persistently high budget deficits prevailing in the last decade that were financed largely by market based domestic borrowings

resulted in a sharp increase of the accumulation of domestic debt stock. In this fiscal environment, development of the government bond market and the necessary infrastructure would help ensure the ability of raising long-term funds from domestic non-bank sources and lower the volatility in the domestic debt market. Further, it would help to match the long-term funding requirement of the government for public investment activities with the long-term funds available in the domestic investors. In this programme, the Central Bank has played a vital role as a market maker by designing new debt instruments and necessary market infrastructure and establishment of effective monitoring and regulatory mechanism for the development of the bond market. In the monetary management front, recent development in the government bond market has facilitated the Central Bank to further strengthen the market oriented monetary management strategy. Because new policies adopted to create a liquid bond market and consideration of bonds as tradable instrument at the Central Bank windows enabled the monetary authority to use Treasury bonds in the open market operations (OMO) and manage monetary operations in a more effective manner. Further development of the domestic bond market would help the monetary authority to conduct monetary management more efficiently in the future.

This paper is based on the research outline agreed by country researchers with the SEACEN Centre at the research workshop to ensure consistency and facilitate cross country comparisons. The study focuses on the development of both government bond market and corporate bond market. However, lack of detailed data on corporate bonds and market operations at the central level organisations are some of the drawbacks faced in this study that limited the analysis of corporate bond market developments in comparison to the government bond market.

2. Recent Developments in the Domestic Bond Market

The domestic bond market in Sri Lanka commenced its active operations only after the issuance of medium and long term tradable government bonds in 1997. The change of the public debt management strategy towards the medium and long term marketable securities to raise funds for budgetary operations and improvement of the market infrastructure and regulatory framework helped popularise government bonds among local investors similar to Treasury bills. The issuance of Treasury bonds was a long felt need in the domestic market enabling local investors to match their supply of long-term funds with the demand for long-term funds from the government. Although the corporate bond market is

relatively small, the development of government bond market and establishment of the yield curve with liquid market would guide the development of the corporate bond market.

Box 9.1

Major Developments in the Government Bond Market in Sri Lanka

Year	Event
1997	Issue of Treasury bonds commenced with maturity ranging from 2-4 years.
1997	Permit primary dealers to access to primary auction of Treasury bonds
1998	Accept the issue of Treasury bonds for the transaction of secondary window of the Central Bank
1998	Introduction of electronic bidding system.
1998	Admit Treasury bonds as a liquid asset
1998	Introduction of 'Jumbo Issues' system.
1999	Extend maturity structure of Treasury bonds upto 6 years
2000	Issue of Treasury bonds with 'Call Option'
2003	Issue of 10, 15 and 20 year Treasury bonds commenced.
2003	Bloomberg Bond trading system for primary dealers was introduced.
2004	Scripless Securities Settlement System (SSS) and Central Depository System (CDS) for securities commenced operations.

2.1 Types of Debt Instruments

In Sri Lanka, bonds issued in the domestic market could be broadly divided into three types based on ownership - government bonds, debentures issued by public enterprises and debentures issued by corporate sector.

The Government bond market is represented by Treasury bonds which were first issued in 1997 and accounted for 47 per cent of government domestic debt stock (Rs 484 bn or US$ 5 bn) at end-2003. Treasury bonds are tradable medium or long term fixed income securities issued under the Registered Stock and Securities Ordinance (RSSO) carrying semi-annual coupon (interest) payments. These bonds are issued on auction bases and the coupon rate is

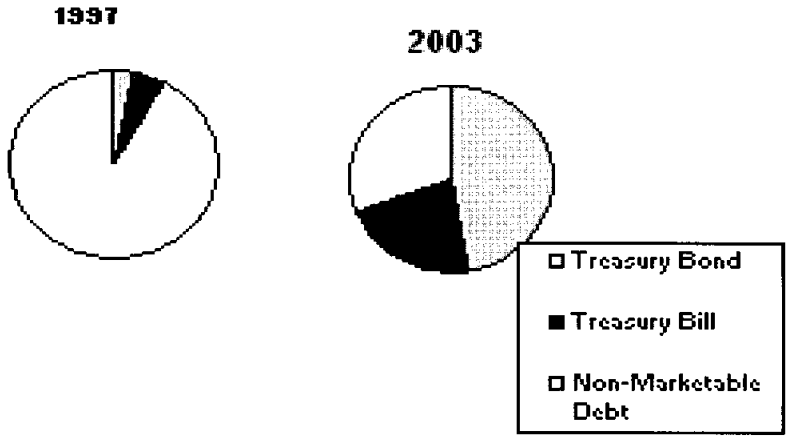
announced by the Central Bank prior to each auction. However, the real interest rate is determined by the market. Treasury bonds are considered as a liquid asset and opened for Central Bank window, outright sales and purchases and Repo and Reverse Repo transactions.

In addition, the Central Bank introduced a new foreign currency denominated debt instrument, the Sri Lanka Development Bond in 2001 to finance the growing fiscal deficit without disturbing the domestic market. However, this is not a tradable instrument and the outstanding stock as at end-2003 amounted to US$ 250 mn.

In the past, a few public enterprises have issued debentures to raise funds for their long-term resource requirement without relying on the government budget. However, this method was gradually abandoned and outstanding stock of debentures issued by public enterprises are now at a negligible level.

The corporate bond market consists mainly of debentures issued by financial institutions and few large corporate players in the market. Although the corporate bond market is relatively small, recent debenture issues have vast differences in their features such as fixed and variable interest bonds, unsecured and secured bonds, capital guaranteed bonds, subordinated bonds, convertible bonds and callable bonds.

Chart 9.1
Development of the Treasury Bond Market



2.2 Size and Structure

2.2.1 Size of the Market

The persistently high budget deficit which was largely financed by domestic sources through Treasury bonds resulted in a rapid growth of outstanding Treasury bonds stock in the recent past. Accordingly, the size of the Treasury bond market increased by Rs.10 bn (US$ 163 mn) at end-1997 to Rs 484 bn (US$ 5 bn) at end-2003. As a ratio of GDP, the Treasury bond stock increased to 28 per cent in 2003 from below 1 per cent in 1997.

The amount of corporate bonds issued by the private sector in comparison to the size of the government bond stock is at insignificant level. According to the Colombo Stock Exchange (CSE), market capitalisation of corporate bonds increased gradually from Rs.0.3 bn (US$ 5 mn) in 1997 to Rs.9.7 bn (US$ 100 mn) in 2003. However, its share of the total domestic bond market is only about 2 per cent.

2.2.2 Issuers Characteristics

In Sri Lanka, the central government is the largest bond issuer in the domestic market as discussed before while sub-national governments (provincial councils and local governments) are prohibited to borrow from the domestic market. According to the present constitutional arrangement for inter-governmental operations, the central government is responsible for providing resource gap of sub-national governments under the "gap filling approach". In addition, the resource gap of most of the pubic enterprises are also financed by the central government. Therefore, the central government has to raise funds for its own fiscal operations as well as to finance other public institutions. Part of this resource gap has been financed through concessional foreign sources and the balance from domestic sources. At present, such borrowing needs are almost entirely financed through the bond programme.

In the past, public financial institutions (such as Housing Development Finance Corporation) issued debentures to raise long-term funds to provide long-term housing loans. However, such debenture issues have gradually declined over the recent past and the stock of debentures has declined to an insignificant level. The corporate bond market, though relatively a small market, has been dominated by financial institutions and other well reputed non-financial players in the

corporate sector. The purpose of issuing bonds by financial institutions was to enable them to reduce their asset/liability mismatch while other non-financial institutions issued bonds as an alternative resource base to reduce their reliance mainly on the banking system.

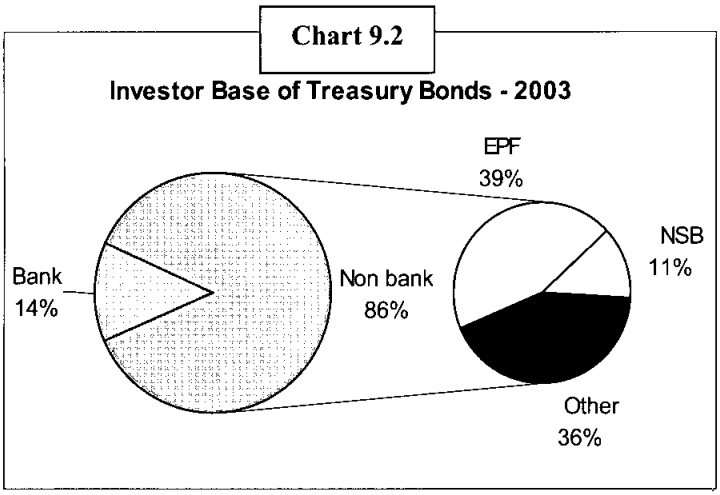
2.2.3 Investors Characteristics

In the government bond market, captive investors play major role, accounting for over 50 per cent of the total bond market. They include the Employees Provident Fund (EPF), which is a superannuation fund and the largest fund in the country with the asset base of Rs.320 bn (US$ 33 bn) as at end-2003. This fund has invested 56 per cent of its total investment portfolio in government bonds while its total investment on government securities amounted to over 95 per cent of the total investment. In addition, the National Savings Bank (NSB), which is a government owned savings institution with island-wide branch network and deposit base of Rs.159 bn (US$ 1,650 mn) and the Employees Trust Fund (ETF), which is also a superannuation fund with a total asset base of over Rs.20 bn (US$ 210 mn), are the other major captive investors in the bond market. In view of non-captive type investors, insurance companies, commercial banks and other various funds play an important role. The strategy adopted in the recent past to popularise government bonds helped diversity the investor base capturing non-bank sector investors and consequently their share in the total bond market has increased to 86 per cent at end-2003.

The main investors in the corporate bond market are again statutory funds and saving institution as mentioned before. These funds are permitted to invest a relatively small percentage of their assets on high quality corporate bonds in the market. Most of corporate bonds are high quality bonds and interest rates offered are higher than the yields on government securities, making them more attractive among institutional investors. In addition, such features enable corporate players to attract private investors in to the corporate bond market.

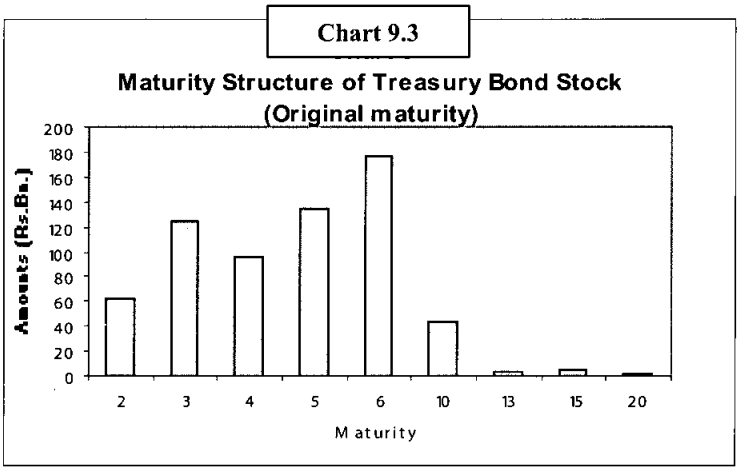
2.2.4 Maturity Structure

At the beginning of the government bond market in 1997, the maturity structure of Treasury bonds had to be limited to 2 years to test the market appetite for tradable securities. Subsequently, the maturity structure has been extended up to 6 years. However, the maturity structure of the Treasury bond could not be extended over 6 years until end-2002 due to uncertain fiscal and macroeconomic



environment in the economy. In 2003, the debt managers were able to extend the maturity structure up to 20 years with the considerable progress made on both fiscal and macroeconomic management in the economy.

For corporate debenture issues, the original maturity period of most bonds was 5 years. The reputed high quality corporate players were able to extend the maturity period of their bond upto 10 years. The existing corporate bond stock has maturity period ranging from 2-10 years.



2.3 Primary Market

Treasury bonds are traded through competitive auctions conducted by the Central Bank on a regular basis. Primary dealers who have been involved in the government debt market since 1992 have direct access to the primary auctions. According to the present regulatory framework, primary dealers (11 PDs) should subscribe the entire sale and the single primary dealer minimum investment level is set at 10 per cent of sale to avoid any possibility of under subscription. The present auction system is on multiple price basis. Since 2000, all auctions are conducted electronically using an on-line system. Before each auction, the debt authority accesses the potential investors via primary dealers to make sure the availability of funds for the full subscriptions. Private placements of Treasury bonds also take place as a contingency to accommodate unexpected borrowings and cancellation of planned bond auctions. Successful bidders are informed on the same day of the auction and the settlement is two days after the auction (T+2 system).

Since the establishment of the primary dealer system, the Central Bank continued its role as a debt manager to develop the primary dealer system. They include streamlining of dealers (removing non-active dealers, appointing new dealers, etc.), introducing necessary regulatory framework for dealers and building up close relationship between primary dealers and the Central Bank.

The sales of corporate debentures in the primary market are made mostly through pubic offerings. In this trading system, brokers play intermediate role as there is no primary dealers system for the corporate bond market.

2.4 Secondary Market

The secondary market operations, which have been developed initially for trading of Treasury bills were extended to the trading of Treasury bonds in the market. Today, market intermediaries can freely transact and intermediate in the secondary market for government bonds. The main participants or intermediaries in the secondary market are primary dealers, commercial banks, finance companies and institutional investors. The secondary market transactions of government securities include outright sales and purchases, Repurchase agreements (Repo) and Reverse Repurchase Agreements (Reverse Repo).

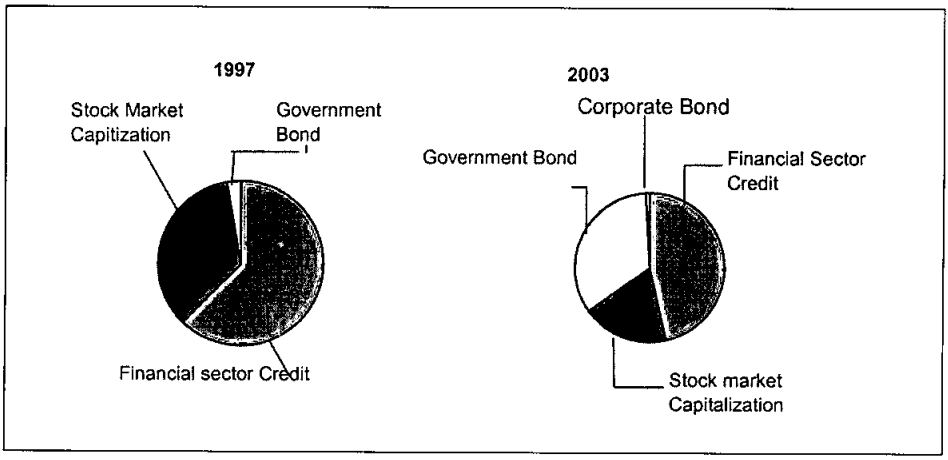
The introduction of the Scripless Securities Settlement System (SSSS) could be seen as a major event to enhance secondary market trading thereby improving

the efficiency in the government securities market. The thin spread maintained by primary dealers makes secondary market operations more attractive for investors. Further, the introduction of the SSSS that replaced the existing scrip system also contributed for the sharp increase in transactions as it solved the problem of time lag, physical delivery and settlement system.

Trading in the secondary market take place between primary dealers and the Central Bank, among primary dealers and between primary dealers and other institutions. In the past, the Repo and Reverse Repo market are more active compared to outright sales and purchases. Large and wide participation of investors have contributed to the enhancing of the liquidity situation in the secondary market. However, dominance of the captive investors in the market retards the development of the secondary market.

In addition, a debt securities trading system (DEX) has been introduced for government securities for secondary market trading of government bonds in the stock market. DEX tradings are scripless and all transactions are carried out electronically. This DEX facility is also available for corporate bond listed with the stock exchange.

Chart 9.4
Development of Financial Sector Profile



3. Bond Market Infrastructure

A well developed and robust market infrastructure is a pre-requisite for the development of an efficient bond market. Legal and regulatory framework and institutional set up are two fundamental pillars for a sound debt management system in the economy. In addition, enforcement of rating requirement and improvement of settlement and clearing systems help improve the attractiveness of the bond market and minimise default risk.

3.1 Legal and Regulatory Framework

A properly designed legal and regulatory framework plays a main role for the sound bond raising and management in the economy. The laws governing the government bond market include Registered Stock and Securities Ordinance (RSSO), Monetary Law Act (MLA) and Annual Appropriation Act (AAA). The RSSO has empowered the Minister in charge of Finance to raise any amount of money by way of issuing Treasury bonds while the MLA has empowered the Central Bank to act as the agent of the government for the management of public debt. The AAA authorises the Central Bank to raise the total loans "in or outside Sri Lanka", on behalf of the government, to provide for the annual expenditure of the government. Accordingly, the AAA sets the upper ceiling of the annual bond issues and the MLA authorises the Central Bank to issue Treasury bonds under the RSSO.

The supervision and enforcement of regulations on bond market operations are exclusively under the authority of the Central Bank. The existing regulatory framework, covers the operations of primary dealers. However, all other players in the secondary market are outside the current regulatory system. The operational manual issued by the Central Bank to primary dealers provides guidelines to assess risks involved and is used to assess the soundness of primary dealer operations.

The structure of the public debt management office, the Public Debt Department (PDD) of the Central Bank has also been reformed in the recent past in order to handle growing complexities in the domestic debt market in a more efficient manner. Accordingly, functions of the Department are broadly divided into six divisions - front office, middle office, back office, supervision division, SSSS division and support service division as is in most other countries that have developed debt markets.

In addition, the Securities and Exchange Commission (SEC) of Sri Lanka has also issued regulations to permit specialised debt trading members to use DEX to trade bonds in the stock market. The legal and regulatory framework for the prudent operations of corporate bond market includes the Registrar of Companies Act and regulations issued by SEC and CSE. All corporate bonds are required to register with the Registrar of Companies and have to be listed at the CSE.

Box 9.2

Directions Issued to Primary Dealers

The Central Bank as the agent of the government in public debt management is responsible for the supervision of primary dealers to ensure an efficient, sound and safe primary dealers system (PDS). In order to achieve these objectives, the Central Bank has issued directions to primary dealers to promote their financial soundness and to adopt best practices in trading government securities. Major directions issued so far are listed below:

- Direction of Segregation of Proprietary Accounts into Trading and Investment Securities
- Account and the Revaluation of Trading Securities at Market Prices
- Direction on Financial Statements
- Direction on Custodial Holding of Scrip Securities
- Direction on Effective Two Way Quotes
- Direction on New Products
- Direction on Establishment of Branches
- Direction on Repurchase (Repo) Agreements.
- Direction on Capital Adequacy
- Direction on Forward Rate Agreement (FRA) and Interest Rate Swaps (IRSs)
- Direction on Firm Two Way Quotes (Bid and Offer Prices) for Benchmark Maturities.
- Direction on Accounting for Repo Transactions.
- Direction on Minimum Subscription Level for Treasury Bills and Treasury Bonds Auctions.
- Direction on Minimum Capital Requirement.
- Direction on Special Risk Reserve.
- Direction on Short Selling of Securities.
- Direction on Adjusted Trading.
- Risk Management Measurement of PDs.
- Mark to Market Valuation of Treasury Bills and Treasury Bonds

3.2 Settlement and Clearing System

An efficient and robust payment and settlement system is vital for the development of the financial system and also for maintaining financial system stability in the economy. The settlement and clearing system in the domestic debt market moved to a more advance payment system - the Real Time Gross Settlement System (RTGS) in 2003.

With the introduction of the RTGS system, the manual payment and settlement system which was in operations was converted to a computer based system. Under the RTGS system, transactions become final and irrecoverable after entries are recorded in the system. Present structure includes all key market participants namely, the Central Bank, commercial banks, primary dealer, EPF and Central Depository system of the CSE. The RTGS system settles large volume and time critical payments between direct participating institutions and customer to customer through a direct participating institution. In addition to operations of bond market, it includes transactions in the call market, government securities market, Central Bank open market operations and interbank net clearing etc.

Box 9.3

Recent Developments in the Payment System

Year	Event
1998	Establishment of Sri Lanka Automated Cleaning House (SLACH)
1994	Introduction of Inter-bank Payment System (SLIPS)
2002	Outsource the functions of SLACH and SLIPS and formed Lanka Clear (Pvt) Ltd. to undertake functions of interbank clearing system.
2003	Introduction of RTGS system
2003	Introduction of Automated General Ledger System (GLS) to the Central Bank
2004	Introduction of Treasury Dealing Room Management System to Central Bank
2004	Introduction of SSS System.

3.3 The Role of Rating Agency

Credit rating is an assessment of the creditworthiness of an issue of debt either by a corporate or the government. In Sri Lanka, the first rating company, Duff and Phelps Credit Rating Lanka (DCRL) was established in 1999, and subsequently became Fitch Ratings Lanka (FRL). The FRL is a joint venture with the Central Bank and other financial institutions.

In 2003, the Government made credit rating and publication of such rating mandatory for all deposit taking institutions and all varieties of debt instruments other than those issued by the government. The main objective of this policy is to develop the corporate bond market keeping in mind the safety and security of the investments made by the public. Rating from an independent source enables the public to assess the risk involved in their investments. This andatory requirement is applied to all bond issues exceeding Rs.100 mn. The regulation of rating activities, including the regulation of rating fees, is entrusted to the SEC. As at end- 2004, the FRL has published rating for 13 market players including public enterprises.

Box 9.4

Mandatory Credit Rating Requirement

Type of Institution/Instrument	Completion Date
Licensed commercial banks and licensed specialised banks	01 July 2004
Registered Finance Companies	01 January 2005
Leasing companies that raise funds by issuing debt instruments to the public	01 January 2005
Private companies that raise funds by issuing debt instruments to the public	01 January 2006

4. Domestic Debt Market and Central Bank Policies

4.1 Fiscal and Monetary Policy Co-ordination

The Ministry of Finance is responsible for the formulation and implementation of fiscal policy while the Central Bank as the monetary authority has the responsibility of formulating and implementing monetary policy in the economy. Although these two institutions operate independently, they coordinate closely in formulating their respective policies.

According to the present institutional and statutory arrangements, the Secretary to the Ministry of Finance is an ex-officio member of the Monetary Board of the Central Bank, which is responsible for monetary policy formulation. In addition, the Central Bank acts as an adviser to the Government. One of the main statutory tasks of the Central Bank is the submission of a special confidential report, known as the September 15th Report on an annual basis. This report extensively reviews the performance of the economy and future prospects and policies to be considered to improve the socio economic conditions in the medium term. This report is used as a background report for the preparation of the Government budget. In addition, the Central Bank provides medium term debt service programme (interest and amortisation payment to domestic and foreign sectors) to prepare the budgetary estimates of the Government.

As discussed above, the Central Bank is responsible for managing public debt thereby act as an agent of the government. The government borrowings through debt instruments such as Treasury bills, Treasury bonds, Rupee loans, etc., from the domestic market and servicing of public debt are handled by the Central Bank. A special committee, the Domestic Debt Management Committee (DDMC), has been set up at the Central Bank comprising senior officials from the Central Bank and the Ministry of Finance for the purpose of recommending domestic borrowing strategy, deciding on types of debt instruments, maturity, coupon rate, composition of instruments etc., to raise funds for the funding requirements of the cash flows of the government budget.

According to the existing statutory arrangements, the Government can raise interest free loans from the Central Bank. This facility is known as a revolving credit facility or provisional advances. However, this concessional facility is limited to 10 per cent of the estimated annual revenue target for the respective year. In addition, the Central Bank can directly purchase Treasury bills through

intervention in the primary market. This intervention could be due to three specific reasons - non-subscription of Treasury bill auction (partly or fully), build up of the securities portfolio for monetary policy purposes and to contain excessive increase of interest rates in the market. Financing of the budgetary operations by the Central Bank could also be made indirectly through the secondary market operations such as Reverse Repurchase agreements (Reverse Repo) and outright purchase of government securities. This type of financing is evident especially when the budgetary operations are excessively expansionary with large budget deficits.

4.2 Objectives and Strategy for Monetary Policy

One primary objective in conducing monetary policy is to achieve economic and price stability with a sustainable level of economic growth through an effective utilisation of resources in the economy. In order to achieve this objective, the Central Bank as a monetary authority adopt measures to maintain money supply at a level that is compatible with the overall macroeconomic framework. This process avoids excessive as well as inadequate money growth as both have detrimental implications on the overall growth momentum in the economy.

In the operational front, the Central Bank prepares a desired future path of monetary expansion which is known as the monetary programme on an annual basis, to supply adequate amount of money. In this process, money supply is taken as an intermediate target and reserve money as an operational target.

According to the present monetary policy strategy, the Central Bank prepares an annual monetary programme indicating the required growth of intermediate target, i.e., money supply, corresponding operational target and reserve money. This annual programme is then stretched out to a monthly and weekly basis for close monitoring in order for early intervention if necessary to avoid significant deviations from the desired path and finally to achieve the pre-determined target.

4.3 Choice of Monetary Policy Instruments

The Central Bank possesses a wide range of tools to be used as instruments for the effective implementation of the monetary policy in Sri Lanka. The Central Bank has the freedom to choose appropriate instruments for meeting a particular situation dictated by the existing economic conditions and prevailing situation in the financial market. The monetary authority has gradually moved away from the non-market type monetary instruments in monetary management and is relying

more on indirect and market based instruments to influence the rate of monetary expansion and liquidity conditions in the banking system and the interest rate structure in the domestic market. Policy instruments are expected to provide the desired results via the cost and availability of money.

The Central Bank of Sri Lanka uses open market operations (OMO) as a main instrument for monetary policy and has moved to active OMOs from the passive type since 2003, in order to increase the market orientation and improve the effectiveness of monetary policy operations. The system is expected to encourage competition in the money market and for participating institutions to improve their liquidity management. Under the present active OMO system, the final targets of economic and price stability are to be achieved through an intermediate target of the broad money supply which in turn is linked to the time path of operating targets of the reserve money. OMOs are conducted to ensure the achievement of reserve money targets while maintaining inter-bank overnight interest rates on which the impact of monetary policy decisions is reflected almost instantaneously within a narrow range. The main features of this system include the interest rate corridor, daily repo and reverse repo auctions, standby facilities and outright buying/selling of tradable securities at the discretion of the Central Bank to either inject or absorb long-term liquidity.

There are number of direct and non-market type monetary instruments which are also operating in the existing system. They include Statutory Reserve Requirement (SRR) on commercial bank deposits (current rate is 10 per cent), liquid assets requirement which requires commercial bank to hold 20 per cent of their liabilities in the form of liquid assets such as government tradable securities and Central Bank penalty rate of 15 per cent. However, the contribution of these instruments in the overall operational process is rather small. Since moving to an independently floating exchange rate regime in January 2001, the exchange rate is no longer available as a tool of monetary policy in Sri Lanka.

4.4 Benchmark Yield Curve

The market orientation of the government debt management and monetary management policy adopted since late 1970s has laid the foundation for the establishment of the market based yield curve in the domestic market. However, the length of the market yield curve was limited to one year due to lack of medium and long-term marketable debt instruments in the domestic market. With the issuance of Treasury bonds in 1997, a medium term yield curve was

developed in the market. The gradual increase of the maturity structure of Treasury bonds enabled the market to extend the yield curve up to 20 years by end-2003.

With the development of the Treasury bonds market, investors showed their preference for some benchmark securities of selected maturities in the market. However, the continuous volatility prevailing in the domestic market arising from uncertain macroeconomic environment prevented the establishment of the long term benchmark yield curve in the secondary market. Therefore, the creation of a conducive macroeconomic environment is a pre-requisite for the establishment of a benchmark yield curve in the market. The lack of a long term benchmark yield curve is one of the reasons for the slow progress in the extension of the maturity structure in the corporate bond market In the corporate bond market, Treasury bill interest rates plays a benchmark role for the determination of yield for corporate bonds. Therefore, the yield of corporate bond is linked to Treasury bills interest rate with a mark up which determine the quality (rating) of the bond and market environment at the time of issuance.

The Central Bank has therefore issued a direction to all primary dealers to send two way quotes for 3-12 month Treasury bills and 2-5 year Treasury bonds daily to the Central Bank and display the quotes on the Bloomberg screen. These benchmark securities include 3-12 month Treasury bills and 2-5 year Treasury bonds.

4.5 The Role of Central Bank in the Bond Market

In Sri Lanka, the Central Bank has been playing an active role for the development of the government bond market. Since 1977, debt management as well as monetary management strategies have been redesigned on more market based principles. In this process, issuance of government bonds by the Central Bank with medium to long term maturities in 1997 was a major milestone as it laid the foundation for long term marketable debt. Further, it served a long felt need of investors and the borrowers, matching the supply of long term funds with the demand for long term resource needs of the Government for public investment programme.

The Central Bank is directly involved as debt manager to develop necessary infrastructure for the well functioning bond market. They include the establishment of the primary dealer system, development of primary and secondary markets,

Box 9.5
Monetary Policy Instruments in Sri Lanka

The Monetary Law Act provides the Central Bank with an array of instruments that could be used for implementing monetary policy. The main instruments available are:

1. Open Market Operations:
   (a) Purchase and sell government or government guaranteed securities in the open market to control market liquidity; and
   (b) Issue its own securities to absorb liquidity.

2. Reserve Requirements on Commercial Bank Deposits:
   To limit the creation of money and credit, the CBSL requires the commercial bank to maintain a portion of their deposit liabilities as reserves (the Statutory Reserve Requirement (SRR).

3. Credit Operations with Banking Institutions:
   a) Credit to commercial banks by the CBSL – this includes refinance facilities and other credit to commercial banks and other financial institutions; and
   b) Emergency loans to commercial banks in distress (lending of last resort facility).

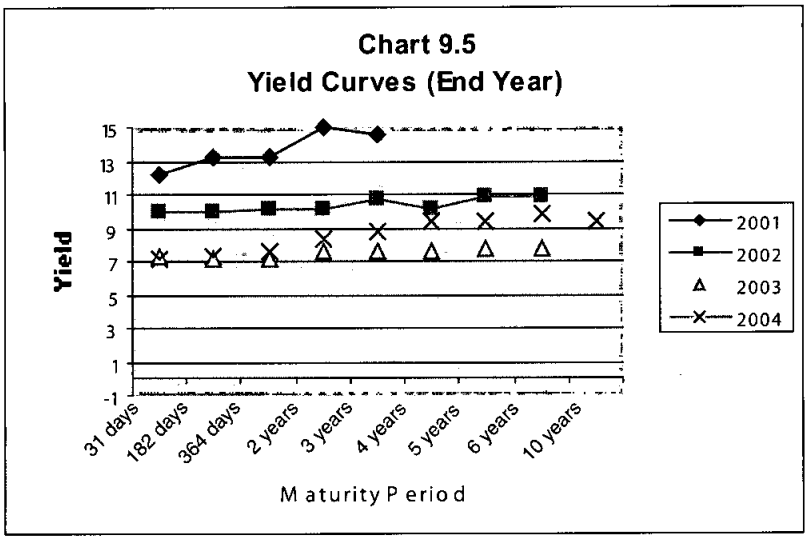
4. Quantitative Restrictions on Credit:
   a) Impose maximum maturity for commercial bank loans and advances;
   b) Limit or prohibit rate of expansion of new loans and advances;
   c) Fix minimum values for the ratios of capital and surpluses to assets; and
   d) Impose minimum deposit margins for letters of credit.

5. Interest Rates:
   a) Determine interest rates at which Central Bank of Sri Lanka provides various types of credit to banks and other financial institutions; and
   b) Fix the maximum interest rtes that banks can pay on their deposits or change for their loans.

6. Operations in foreign exchange, i.e. external reserve management and exchange control regulations.

7. Moral Suasion[1]
   Thus the Central Bank can influence money supply, availability of credit and interest rates using these policy instruments, either individually or as a combination.

[1/] Although not explicitly indicated as a tool of monetary policy and having no legal backing, this is a means whereby the Central Bank uses its influence with commercial banks to persuade them to adopt a desired course of action.



computerisation of debt market structure and introduction of new payment and settlement system. To address increasing complexities in public debt management, the required legal and regulatory infrastructure was also set up for the smooth operation of the market and to ensure default-free risk investment. In addition, the Central Bank is directly involved in conducting awareness campaigns to popularise bonds outside urban centres and among the non-captive type investors and the general public.

5. Challenges and Strategy to Develop Well Functioning Bond Market

5.1 Factors Hindering Bond Market Development

The following are the major issues to be addressed in the further development of the domestic bond market in Sri Lanka:

5.1.1 Restrictions on Foreign Investment

Under the existing exchange control regulations, capital account operations are not fully liberalised and foreigners are restricted from purchasing domestic currency denominated government bonds and thus, has limited the size of the investor base which is confined only to local investors.

5.1.2 Lack of Benchmark Yield Curve

The high volatility in the domestic market has prevented the establishment of a benchmark yield curve with long-term maturities for the bond market in the past and is one of the impediment for the development of the domestic bond market.

5.1.3 Restriction on Short Selling

Under the present regulatory framework, primary dealers are not permitted to short sell government securities in the domestic market. This restriction has some negative impact on the liquidity situation in the market and allows primary dealers to develop various trading strategies of their purchases at the primary market.

5.1.4 Taxation Issues

The present tax treatment is advantageous to investors of government securities while imposing a higher tax liability on the corporate bond market. This distortion in tax treatment hinders the attractiveness of corporate bonds in the market.

5.1.5 Lack of Proper Market Structure for Corporate Bonds

A developed and well established intermediary system is required for an efficient and vibrant bond market. In Sri Lanka, although the government bond market is equipped with a well developed intermediary system, a lack of such a system for corporate bonds is one of the major hindrance to the market making process and development of the corporate bond market.

5.1.6 Lack of Awareness

The lack of a well designed awareness campaign especially targeting prospective investors is also a reason for the slow progress and the urban concentration of the bond market. Bond issuers, especially of corporate bonds, are unaware of the benefits of issuing bonds such as the advantage of the diversification of funding sources to minimise system risks. Similarly, the general public is also unaware of the benefits of investing their excess funds in alternative

sources. As a result, there are few corporate bond issuers and are largely limited to urban centres.

5.1.7 High Cost of Bond Issues

Under the existing market structure, major corporate players are in a more advantageous position to gain access to alternative financing sources and raise funds from the banking system at a relatively lower interest rate (prime lending rate) which is close to the interest rate in the government securities market. As issues of corporate bonds require several pre-conditions to be fulfilled such as rating requirement, market arrangement, publicity etc,. at the issuers' expenses, the total effective cost of issuing bonds is higher than the cost of borrowing from the banking system, especially for price customers in the banking system and thus has discouraged the issuing of corporate bonds in the domestic market.

5.1.8 Uncertain Macroeconomic Environment

One of the pre-conditions required for the development of the bond market, especially of the corporate bond market, is the investors' and issuers' confidence on the long-term stability in the macroeconomic environment. In Sri Lanka, the ethnic conflict that prevailed in the last two decades and political instability in the recent past has created an uncertain socio- economic environment. This uncertain situation had also contributed to the slow progress in the bond market.

5.2 Measures/Strategies for Developing Bond Market

5.2.1 Past Efforts/Recent Initiatives

(i) Opening Government Bond Market for Foreigners

Initial steps have already been taken to open the government securities market to foreign investors. Accordingly, the existing Exchange Control Act will be replaced by the Exchange Management Act which has incorporated provisions to allow foreigners to trade rupee denominated government securities in the domestic market.

(ii) Trading of Government Securities on the Stock Market

Sri Lanka launched the trading of government securities on the Colombo Stock Exchange (CSE) which is called as DEX Trading from 2003. However,

such trading activities are currently handled by only four members at the stock exchange. Therefore, intermediary structure need to be improved to develop the DEX trading activities of government bonds in the stock market in line with the development of the bond market.

(iii) Relaxation of Market Operations of Captive Investment

The investor base of the bond market in Sri Lanka is largely dominated by captive type investors such as the Employees Provident Fund (EPF) National Savings Bank (NSB) and Employees Trust Fund (ETF), etc. These funds are regulated either by the Central Bank or the government with limited flexibility of trading in the secondary market. This has affected the liquidity in the bond market and undermined the development of the market. Therefore, with the improvement of the macroeconomic environment, captive type investors should be permitted to trade in the secondary market and operate in the DEX market on a more independent manner.

(iv) Reduction of Number of Bond Series

The number of outstanding bond series has increased sharply in the government bond market in recent years (from 18 series in 1997 to 92 series in 2003 and then reduced to 78 by end 2004). This has created problems in the trading system as it affects the liquidity of different bonds and hampers the construction of a price efficiency yield curve. Therefore, the policy of reducing the number of bond series has to be expedited to limit the share of bond series and confining it to bonds popular among investors as benchmark issues such as 2 and 5 years bonds

5.2.2 Measures to Further Develop the Bond Market.

(i) Permitting Short Selling

As discussed before, the restriction on short selling has reduced the liquidity in the bond market. Primary dealers should be permitted to do short selling of government securities as well as others to further develop the market.

(ii) Expand the Scope of Primary Dealers

The lack of an active intermediary system is one of the major problems in the development of the corporate bond market. Therefore, primary dealers in

the government securities market should be allowed to participate in the corporate bond market.

(iii) Unification of Tax Treatments

Taxation on the bond market has to be unified to maintain the neutrality of taxation of different bond instruments in the domestic market.

(iv) Streamline Trading on the DEX Market

The extension of the trading of bonds in the stock market would help trade in government securities in a more efficient manner. However, the recently developed SSS System for the government securities market has yet to be connected to the Colombo Stock Market, delaying the trading of bonds. Therefore, providing a direct access facility to the SSSS for CSE would help to improve the operations in the bond market.

(v) Active Participation in the Asian Bond Fund

Sri Lanka has become a member of the Asian Bond Fund which commenced its operations in 2002 (22 member countries are in the Fund as at end-2004). However, current foreign exchange regulations restrict the country from garnering the full benefits from the Fund. Therefore, required amendments should be made to the legal and regulatory structure for active participation and garnering maximum benefits from this Fund.

6. Conclusion

The bond market in Sri Lanka has shown significant progress since the inception of the active market operations in mid 1990s. The bond market in Sri Lanka shows an imbalanced development in that the government bond market is more developed with the corporate bond market lagging behind. The continuation of the deficit budget policy which requires funds largely from the domestic market compelled the authorities to develop the government bond market. The Central Bank plays a vital role in developing the government bond market. This process includes the development of debt instruments, intermediary system, legal and regulatory system and improvement of payment and settlement system. Further, the extension of bond trading to the stock market helps to generate liquidity in the bond market.

This development has helped to raise funds at a lower cost and provides investors with a market base investment environment. In the corporate bond market, the relatively small corporate sector and limited investors coupled with the availability of funds from alternative sources at a rate closer to interest of government securities etc., have hampered the development of the corporate bond market.

However, there are a number of markets constraints as well as legal and regulatory constraints that have thwarted benefits to both issuers and investors. As discussed before, these issues have to be corrected gradually without disturbing the existing operations in the market. The majority of market players are still unaware of the advantages of developing the bond market to minimise risk in the system. Therefore, further development of the bond market need to be accompanied with a well designed awareness campaign to gain the maximum benefit in the future. In addition, the country has to look forward to minimise future risks in the domestic bond market for which regional co-operation such as via the Asian Bond Fund could be developed as an alternative funding source thereby strengthening the investor base.

The Central Bank of Sri Lanka has moved towards a market oriented monetary management strategy in the recent past. OMO is the main instrument in the monetary policy used to maintain the desired level of money supply through reserve money management. In this environment, the development of the bond market would help the monetary authority with efficient monetary management in the future.

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Table 9.1
Total Outstanding Government Debt

Year	Rs. Million	US$ Million	% of GDP
1996	716,388	12,961.6	93.3
1997	764,071	12,952.6	85.8
1998	924,699	14,316.4	90.8
1999	1,051,331	14,935.8	95.1
2000	1,218,700	16,082.1	96.9
2001	1,452,706	16,256.8	103.2
2002	1,670,342	17,461.2	105.5
2003	1,863,851	19,310.5	105.9

Source: Central Bank of Sri Lanka

Table 9.2
Gross Domestic Production and Exchange Rates

Year	Exchange Rate		GDP at Market Prices	
	Annual Average	End Year		
	Rs/US$	Rs /US$	Rs Million	US$ Million
1996	55.27	56.71	768,128	13,898
1997	58.99	61.29	890,272	15,092
1998	64.59	67.78	1,017,986	15,761
1999	70.39	72.12	1,105,963	15,712
2000	75.78	82.65	1,257,636	16,596
2001	89.36	93.16	1,407,398	15,750
2002	95.66	96.73	1,582,655	16,545
2003	96.52	96.74	1,760,280	18,237
2004	101.19	104.61	n.a.	n.a.

Source: Central Bank of Sri Lanka

Table 9.3
Government Domestic Debt
(Rs million)

Type	1996	1997	1998	1999	2000	2001	2002	2003
Marketable	124996	124996	168911	229863	339120	400170	558124	702402
T. bills	124996	114996	119996	124996	134996	170996	210996	219295
T. bonds	0	10000	48915	104867	204124	229174	347128	483107
Non-Marketable	231707	262744	294515	313601	337540	415795	508216	317566
Total	356703	387740	463426	543464	676660	815965	1066340	1019968
Share of marketable to total (%)	35	32	36	42	50	49	52	69

T. bills are upto 1 year maturity while T bonds are over 2 years maturity.
Source: Central Bank of Sri Lanka

Table 9.4
Treasury Bond Issues
(Rs. million)

Maturity (Yrs)	1997	1998	1999	2000	2001	2002	2003
2	7,500	25,065	11,000	58,321	21,422	27,566	3,000
3	1,000	9,450	26,448	27,951	77,810	19,534	20,250
4	1,500	4,400	18,904	10,000	19,221		35,600
5			6,000	14,550	45,170		43,700
6			1,000	14,550	43,500		68,000
10							33,950
13							4,397
15							4,900
20							1,000
Total	10,000	38,915	63,352	125,372	207,123	47,100	214,797

Source: Central Bank of Sri Lanka

Table 9.5
Original Maturity of Treasury Bonds Stock as at end 2004

Maturity (Yrs)	Treasury Bond Stock	
	Rs Million	US$ million
2	63,010	602
3	124,622	1,191
4	95,921	917
5	133,620	1,277
6	176,326	1,686
10	43,950	420
13	4,397	42
15	4,900	47
20	1,000	10
Total	**647,746**	**6,192**

Source: Central Bank of Sri Lanka

Table 9.6
Investors Base of Treasury Bonds
(Rs. Mn.)

Investor Base	1997	1998	1999	2000	2001	2002	2003
1. Bank Sector	**1,788**	**5,808**	**8,405**	**38,648**	**22,214**	**35,523**	**65,246**
1.1 Central Bank	-	-	452	30,936	1,616	-	-
1.2 Commercial Banks	1,788	5,808	7,953	7,712	20,598	35,523	65,246
2. Non Bank Sector	**8,212**	**43,107**	**96,462**	**165,476**	**206,960**	**311,605**	**417,861**
2.1 Employee Provident Fund	3,100	11,912	27,635	50,003	64,758	109,093	187,665
2.2 Other Provident Funds	-	83	147	449	-	591	287
2.3 Savings Institutions	1,609	10,372	20,656	25,472	28,964	42,292	54,449
2.4 Insurance & Finance Companies	1,876	6,849	7,987	10,940	16,258	21,159	20,740
2.5 Departmental & other Official Funds	65	571	907	13,176	16,061	17,010	17,375
2.6 Private & Other	1,562	13,320	39,130	65,436	80,919	121,460	137,294
3. Total	10,000	48,915	104,867	204,124	229,174	347,128	483,107

Source: Central Bank of Sri Lanka

Table 9.7
Treasury Bonds Secondary Market Operations
(Rs. billion)

Type	1999	2000	2001	2002	2003
Outright	86	202	74	294	777
Sales	59	128	49	186	427
Purchases	27	74	25	108	350
Repurchases	0	1,083	859	1,232	2,244
Repo	0	756	482	1,006	1,939
Reverse Repo	0	327	377	226	305
Total	86	1,285	933	1,526	3,021
Repurchase to Outstanding Bond Stock (%)	-	531	375	538	464
Total operations to Outstanding Bond stock (%)	82	630	407	666	625

Source: Central Bank of Sri Lanka

Table 9.8
Financial Sector Profile
(Rs. billion)

Item	1996	1997	1998	1999	2000	2001	2002	2003
Domestic credit (a) by Financial sector	202.4	230.2	339.5	389.7	445.7	518.8	573.2	651.2
Stock market Capitalisation	104.2	129.4	116.7	112.8	88.8	124	162.6	262.8
Govt. Bonds	0	10	48.9	104.9	204.1	229.2	347.1	483.1
Corporate bonds	0	0.3	3.2	4.6	5.8	7.3	10.3	9.7
Total 306.6	369.9	508.3	612	744.4	872	1093.2	1406.8	

Source: Central Bank of Sri Lanka
(a) Loans and advances by commercial banks to the private sector

Table 9.9
Issue of Corporate Bonds

	1997	1998	1999	2000	2001	2002	2003
No. of Issues	1	11	7	8	7	12	2
No. of Issuers	1	6	5	4	3	5	
Amount Raised (Rs. million.)	885	2,668	1,743	2,056	1,539	2,979	2,244

Source : Fact Book 2003 – CSE

Table 9.10
Trading of Corporate Bonds in the Colombo Stock Market
(Rs. million)

	1997	1998	1999	2000	2001	2002	2003
Turnover (Rs. Mn)	57.2	320.8	550.6	425.3	151.9	340.7	180.2
No. of Trades	203	1,688	2,461	1,70.1	1,096	2,445	1,685
No. of Debentures Traded (Mn)	0.6	4.2	8.3	25.1	9.1	17.6	2.7
Market Capitalisation (Rs. Mn)	329	3,191	4,584	5,803	7,323	10,300	9,671

Source : Fact Book 2003 – CSE

Chapter 10
Domestic Bond Market Development and Implications to the Central Bank in Taiwan

by
Young Jen-hai[1]

1. Overview

The bond market is vital to Taiwan's economy. It raises the capital needed to build infrastructure and spur economic development. In one way or another, the bond market touches the life of every resident in Taiwan. Bonds lower the cost of financing public debt to taxpayers, enable corporations to obtain capital for expansion, and provide financing for schools, parks, hospitals, and a multitude of other public works that enhance the quality of life.

In order to further promote public welfare, attain sustained economic growth, and create a more stable macroeconomic environment, it has long been the Taiwan government's policy priority to develop a sound and liquid bond market. The following are the purposes that the Taiwan government and corporations issue bonds in the market.

1.1 The Purposes of the Issuance of Bonds

1.1.1 The Government Issues Bonds to Finance Budget Deficits

In the years prior to 1991, the Taiwan government maintained a surplus fiscal position. However, in order to stimulate the economy, the government implemented the Six-year National Development Plan as well as other major public work programmes and therefore, has greatly increased the issuance of central government bonds (CGB) to finance the rising budget deficits since 1991. At the end of 2003, the government's debt dependency ratio, i.e. the ratio of annual issuance of government bonds to total government expenditure, rose to 18.63% from 9.53% in 1996. Outstanding debt of CGB reached US$75 billion[2], more than twice the amount in 1996.

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1. The author is Assistant Director General at the Economic Research Department of the Central Bank of China, Taipei.

2. The average exchange rate for the year is used to convert the amounts initially denominated in the New Taiwan dollars to the U.S. dollars. The average exchange rate in 1996, 1997, 1998, 1999, 2000, 2001, 2002 and 2003 was 27.46, 28.66, 33.44, 32.27, 31.23, 33.80, 34.58 and 34.42, respectively.

1.1.2 Companies Issue Bonds to Minimise Cost of Capital

Companies raise capital to finance investments in facilities, equipment, research and development, new technology and general business expansion. In deciding how to raise capital for investment, companies can issue equity securities, borrow in the debt markets or a mixture of both. The driving force behind a company's financing strategy is the need to minimise its cost of capital.

After the 1997-98 Asian financial crisis, factors including the unstable international financial situation, the weaker stock market, the tightening of bank credit, a favourable interest rate environment, and attempts to diversify their funding resource caused the issuance of corporate bonds to increase significantly over the recent years. Direct financing has replaced bank loans as the main source of funds for many businesses. Many local companies took advantage of the low interest rates to fix their long-term cost of funds, which caused the outstanding balance to reach US$34 billion at the end of 2003, showing a growth of 370% compared with that of 1996.

1.1.3 Banks Issue Debentures for Different Reasons

The reasons for domestic banks to issue bank debentures are different. They include strengthening tier II capital, making financial investments, raising medium-to-long-term loan funding sources, and promoting fixed-rate mortgages.

1.2 Key Factors Driving Bond Market Development

1.2.1 Market Infrastructure has been Greatly Improved

In order to develop a sound and robust bond market, interaction and cooperation between the public sector and the private sector are necessary. The public sector focuses on building the necessary market infrastructure and developing the appropriate set of legal and regulatory frameworks while the private sector facilitates bond market activities. The infrastructure that has been built in the bond market is as follows:

(i) In the Primary Market

After 1991, the government changed its policy to focus more on infrastructure and social welfare, relying more on debt issuance as a funding source, which

caused the issuance of CGB to rise significantly. In order to facilitate the issue of CGB and to improve its liquidity, the Central Bank of China, Taipei (CBC) and the Ministry of Finance (MOF) have introduced a series of fundamental reforms including:

(1) Setting up a central government bond dealer system in the early 1990s. Financial institutions meeting a certain criteria may apply to the CBC to qualify as central government bond dealers and participate in CGB tender sales and placements. Those dealers must participate in every primary bond auction, make reasonable bids in the auction, and provide two-way quotations in the secondary market. Individuals and other institutional investors who wish to participate in the primary auctions must do so through qualified dealers.
(2) The issuance of CGB in book-entry form was launched in September 1997 representing a great improvement for the payment system.
(3) In line with the adoption of the book-entry system, the procedure was also changed from conventional price auction to yield auction.

In order to further stimulate the development of the bond market, the government set up a "Financial Reform Task Force" in 2002. The Task Force put together the expertise and experience of government agencies, scholars, and professionals. Important measures taken regarding the bond market include the following:

(1) Adopting the pre-announce issue calendar so that institutional investors may better structure the maturity of their investment portfolios;
(2) Establishing a Primary Dealers (PD) system of government bonds. Qualified financial institutions including banks, bills finance companies and securities firms may apply to be primary dealers and market makers in the central government bond market;
(3) Reopening benchmark bond issues to increase liquidity and help establish of a benchmark yield curve;
(4) Introducing a bond futures market to facilitate risk hedging.

(ii) In the Secondary Market

The bond market's liquidity and efficiency are continuously improved by competition, standardised market practices and technology-based innovations in the structure and trading of securities. Under the authorisation of the Securities

and Futures Commission[3] (SFC), GreTai Securities Market (GTSA), a non-profit public agency, is in charge of managing secondary bond market. The following are some major innovations initiated by GTSA:

(1) Establishing a comparison system for government bonds that provides outright trading, automatic securities and payment matching, and net settlement among dealers.
(2) Implementing the Electronic Bond Trading System (EBTS), an on-line trading system which improves trading efficiency and information transparency. Due to the launch of EBTS on July 1, 2002, the trading volume increased 51 folds, from US$77 billion in 1997 to US$3,965 billions in 2003.

1.2.2 Tax System for Bond Trading was Favourable for Local Investors

Trading on corporate bonds and bank debentures became exempt from transaction tax from February 1, 2002. Since then, the tax system in Taiwan for bond trading was favourable for local investors as there is no trading tax, no capital gains tax, and only the interest income is taxed. The environment is therefore, very conducive to the holding and the trading of bonds and is the main reason for the swift growth of Taiwan's capital market.

1.2.3 The Rapid Growth of Securities Firms and Bond Funds Due to Financial Deregulation

Financial market deregulation has led to the establishment of securities firms and the faster approval process for bond funds. As a result, financial markets have expanded and direct financing is gradually replacing indirect financing. More individuals are investing in financial markets directly and increasing number of companies are turning to financial markets for funds. Owing to falling interest rates, more depositors have shifted their bank deposits to bond funds for higher returns, resulting in bond funds becoming the largest institutional investors in the local corporate bond market.

3. Since the inauguration of Financial Supervisory Commission (FSC) on July 1st 2004, the Bureau of Monetary Affairs, Securities and Futures Commission (now Securities and Futures Bureau), and Department of Insurance (now Insurance Bureau) became three subordinate agencies to the FSC.

1.2.4 Favourable Economic Condition for the Development of Local Bond Market

In the aftermath of Asian financial crisis, the bond market prospered due to the following reasons: the volatile international financial conditions increased the exchange rate risk to raise funds overseas; the bearish equities market made it difficult for corporations to raise funds; banks' tight credit control limited the availability of commercial loans; a depreciating local currency increased the cost of offshore borrowing, and a marked decline in local long-term interest rates.

Due to the firm cooperation between the government and private sector, the outstanding balance of Taiwan's bond market reached US$130 billion at the end of 2003, a growth of 271% compared to that of 1996. Market share of bond market in the financial sector increased from 6.3% in 1996 to 13.7% in 2003 (Table 10.1 & Table 10.2). Although the bond market doubled in its market share, it is still the smallest in terms of market value, compared with the other financial sectors, i.e. the bank loan market with an outstanding balance of US$411 billion and the stock market with market capitalisation of US$409 billion at the end of 2003.

Table 10.1: Financial Sector Profile, (Dec.31, 2003)

in US$ million

Financial Sector		Outstanding/Market Capitalization		Market Share(%)
Bank Loans		411,290		43.30
Bond Market		129,840		13.67
	Government Bonds		75,203	7.92
	Corporate Bonds		34,193	3.60
	Bank Debentures		15,724	1.66
	Benificiary Certificates		275	
	Foreign Bonds		4,445	0.47
Stock Market		408,770		43.03
	TSEC Listed Companies		373,884	39.36
	GTSM Listed Companies		34,886	3.67
Total		949,900		100.00

Source : Financial Statistics Monthly, Taiwan, Republic of China

Table 10.2: Financial Sector Profile, (Dec.31, 1996)

in US$ million

Financial Sector	Outstanding/Market Capitalization	Market Share(%)
Bank Loans	408,055	53.66
Bond Market	47,893	6.30
Stock Market	304,530	40.04
Total	760,479	100.00

Source : Financial Statistics Monthly, Taiwan, Republic of China

2. Recent Developments of Domestic Bond Market

2.1 Types of Debt Instruments

Bonds issued in Taiwan can be grouped into five categories: government bonds, corporate bonds, bank debentures and foreign bonds depending on the types of issuers, and beneficiary certificates.

2.1.1 Government Bonds

There are two types of government bonds. One of them is the central government bond issued by the CBC on behalf of the central government. The other is the municipal government bond issued by the municipal governments of Taipei and Kaohsiung and they are mainly auctioned or distributed through commercial banks.

At the end of 2003, the total outstanding government bonds amounted to US$75,203 million, registering the highest record in history, reflecting the tight fiscal position of the government budget. The CGB accounted for 96.7% of the total outstanding balance, while the remaining are municipal government bonds.

In addition, the CBC also issues treasury bills (TB) on behalf of MOF to finance short-term funding needs. These bills have maturities of up to 364 days and are sold on a discount basis. Total outstanding balance was US$1,743 million at the end of 2003. TB is regard as a money market instrument in Taiwan and is not included in this domestic bond statistics.

2.1.2 Corporate Bonds

Public and private corporations may issue bonds to raise capital for the purchase of equipments or material. They can issue straight bonds or convertible bonds, which can be converted into a predetermined amount of the issuing

company's equities at certain time during its life. Corporate bonds can also divided into collateral bonds guaranteed by financial institutions, or non-collateral bonds without guarantees but must be credit-rated. However, their credit ratings may be distinctly different. There were 2,666 issues of straight bonds and 235 issues of convertible bonds as of December 31, 2003.

2.1.3 Bank Debentures

Bank debentures were issued by financial institutions for different purposes, such as strengthening their tier II capital, making financial investments, raising medium-to-long-term loan funding sources, and promoting fixed-rate mortgages. The debentures are traded only in the over-the-counter market, which limits their circulation.

2.1.4 Foreign Bonds

Bonds issued by foreign institutions (i.e. Asian Development Bank, Council of European Development Bank, Central American Bank, European Investment Bank, Inter-American Development Bank, and North European Investment Bank, etc) in Taiwan are priced in NT dollars. These bonds are all listed for trading on the OTC market.

2.1.5 Beneficiary Certificates

The "Financial Asset Securitization Act" and the "Real Estate Securitization Act" was enacted in Taiwan on July 24, 2002 and July 23, 2003, respectively. According to these Acts, assets with predictable streams of cash flows such as housing loans, business loans, automobile loans, credit cards receivables, account receivables and real estate loans are allowed to be securitised and hence enhance financial institutions' liquidity.

Taiwan's securitisation market has achieved an encouraging start with the first product approved in January 2003. Six financial asset securitisation products have been approved with a total amount of US$275 million in 2003. One product was issued in Hong Kong and others were issued domestically. The types of products include collateralised loan obligations (CLO), mortgage backed securities (MBS) and credit card receivables.

2.2 Size and Structure

2.2.1 Size of the Market

Taiwan's bond market has been growing at a fairly steady pace since 1998. Its outstanding balance reached nearly US $130 billion at the end of 2003, almost triple the figure of 1996 (Table 10.3). In the secondary market, bond transactions in 2003 amounted to US$5.9 trillion, which was 5.7 times of the figure in 1996 (Table 10.4). Government bonds accounted for 98.5% of the bond market, followed by corporate bonds, foreign bonds and bank debentures. Turnover ratio of government bonds was 77.5 times in 2003 (Table 10.5). Outright trading turnover ratio of the domestic bond market was 48.9 times, while repurchase agreement 29.8 times during the same year (Table 10.6). Therefore, government bonds provide a reliable benchmark yield curve for other debt instruments.

The bond market in Taiwan is medium sized in comparison with the markets of other major Asian economies, with plenty of room for further development. In 2003, the ratio of outstanding marketable securities to GDP is around 45.3% (Table 10.7).

Table 10.3: Outstanding Marketable Securities

in US$ millions

Year	Total	Government Bonds	Corporate Bonds	Bank Debentures	Benificiary Certificates	Foreign Bonds
1996	47,893	36,281	9,120	1,265		1,227
1997	51,361	36,107	11,278	2,402		1,574
1998	51,386	31,217	15,518	2,764		1,887
1999	62,729	38,588	18,288	3,031		2,823
2000	76,606	47,401	22,648	2,935		3,622
2001	89,125	54,979	23,921	5,994		4,231
2002	108,203	64,041	29,128	10,911		4,124
2003	129,841	75,203	34,193	15,724	275	4,445

Source 1. Financial Statistics Monthly, Taiwan, Republic of China
2. Major Indicators of Securities & Futures Mrket, August 2004

Table 10.4: Secondary Market Transaction Value

in US$ millions

Year	Total	Government Bonds	Corporate Bonds	Bank Debentures	Benificiary Certificates	Foreign Bonds
1996	1,030,500	1,029,089	1,242	-	-	169
1997	1,409,350	1,406,800	1,635	-	-	915
1998	1,643,473	1,635,116	3,303	-	-	5,053
1999	1,624,809	1,614,831	4,646	-	-	5,331
2000	2,204,390	2,188,752	7,801	-	-	7,837
2001	3,520,488	3,501,022	8,518	296	-	10,653
2002	3,886,612	3,851,579	25,198	1,553	-	8,283
2003	5,915,862	5,828,585	62,850	3,642	59	20,726

Source Financial Statistics Monthly, Taiwan, Republic of China

Table 10.5: Turnover Ratio of Marketable Securities

Year	Total	Government Bonds	Corporate Bonds	Bank Debentures	Benificiary Certificates	Foreign Bonds
1996	21.52	28.36	0.14			0.14
1997	27.44	38.96	0.14			0.58
1998	31.98	52.38	0.21			2.68
1999	25.90	41.85	0.25			1.89
2000	28.78	46.18	0.34			2.16
2001	39.50	63.68	0.36	0.05		2.52
2002	35.92	60.14	0.87	0.14		2.01
2003	45.56	77.50	1.84	0.23	0.21	4.66

Note: Turnover ratio = Annual trading value / Marketable securities outstanding at the end of the year

Table 10.6: Secondary Market Liquidity

in US$ millions

Year	Total		Outright Trading		Repos Trading	
	(1)= (2) + (3)	Turnover	(2)	Turnover	(3)	Turnover
1996	1,030,500	28.40	95,842	2.64	934,657	25.76
1997	1,409,350	39.03	90,397	2.50	1,318,952	36.53
1998	1,643,473	52.65	214,030	6.86	1,429,443	45.79
1999	1,624,809	42.11	224,847	5.83	1,399,961	36.28
2000	2,204,390	46.51	534,471	11.28	1,669,919	35.23
2001	3,520,488	64.03	1,568,755	28.53	1,951,733	35.50
2002	3,886,612	60.69	1,754,165	27.39	2,132,447	33.30
2003	5,915,862	78.67	3,677,247	48.90	2,238,615	29.77

Source Financial Statistics Monthly, Taiwan, Republic of China

Table 10.7: Ratio of Outstanding Domestic Debt Securities to GDP

(%)

Year	Total	Government Bonds	Corporate Bonds	Bank Debentures	Benificiary Certificates	Foreign Bonds
1996	17.13	12.98	3.26	0.45	-	0.44
1997	17.70	12.44	3.89	0.83	-	0.54
1998	19.23	11.69	5.81	1.03	-	0.71
1999	21.79	13.40	6.35	1.05	-	0.98
2000	24.76	15.32	7.32	0.95	-	1.17
2001	31.70	19.55	8.51	2.13	-	1.50
2002	38.38	22.72	10.33	3.87	-	1.46
2003	45.34	26.26	11.94	5.49	0.10	1.55

Sources: 1. Financial Statistics Monthly, Taiwan, Republic of China

2. Directorate-General of Budget, Accounting and Statistics, Executive Yuan

2.2.2 Issuer Characteristics

Figure 10.1 and Figure 10.2 show the compositions of domestic debt securities by issuer characteristics in 1996 and 2003. Although the market share of corporate bonds and bank debentures grew very fast, from 19% to 26% and from 3¢Mto 12%, respectively, government bonds still dominate the domestic bond market, followed by corporate bonds.

Figure 10.1: Compositions of Domestic Debt Securities by Issuer Characteristics for 1996

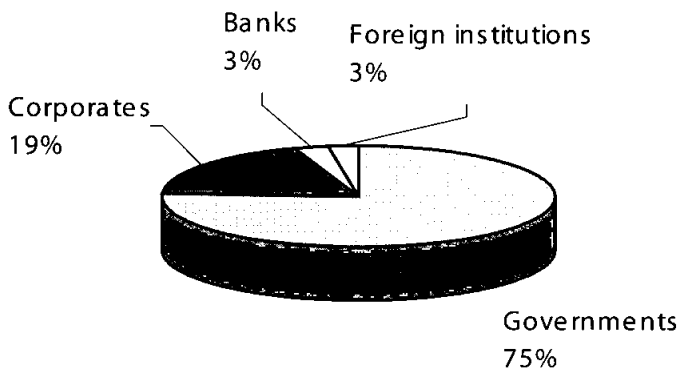
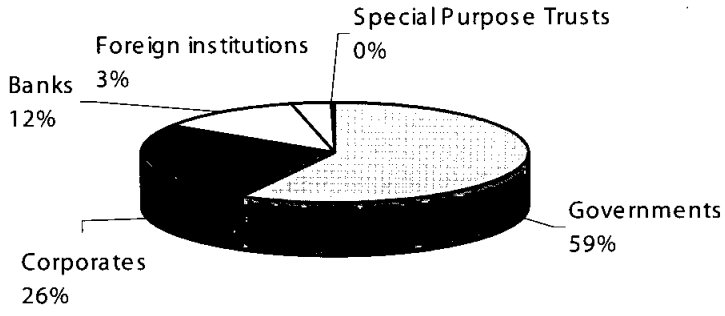


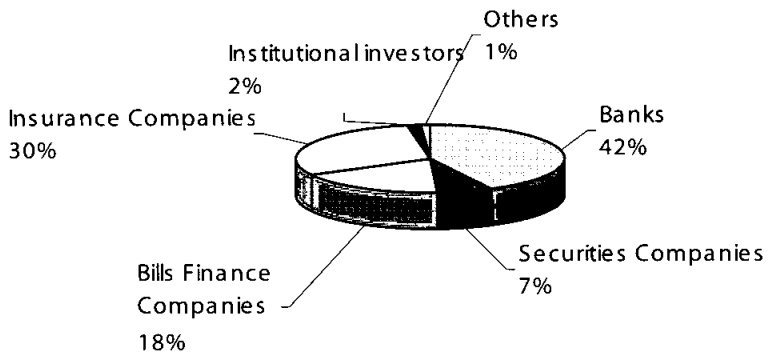
Figure 10.2: Compositions of Domestic Debt Securities by Issuer Characteristics for 2003



2.2.3 Investor Characteristics

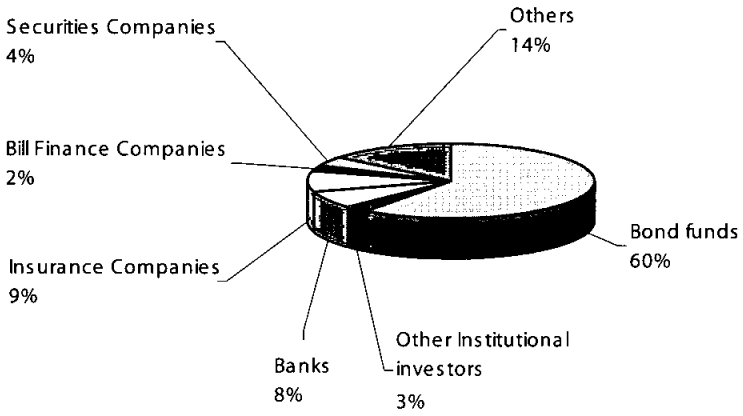
According to the Central Bank of China Act, all types of deposits taken by financial institutions shall be subject to 7% liquidity ratio. Since government bonds are generally used to meet the liquidity regulation, they are in high demand by financial institutions. Commercial banks are the major holders of the government bonds. Figure 10.3 shows the investor characteristics of the CGB at the end of 2003.

Figure 10.3: Distribution of Government Bond Holders for 2003



In addition, bond funds, local institutional investors specialising in bonds investment, hold more than 60% of the outstanding balance of corporate bonds and bank debentures (Figure 10.4), with most of the remainder being held by banks, securities companies and insurance companies, while very little by individuals.

Figure 10.4: Distribution of Corporate Bond and Bank Debenture Holders for 2003



2.2.4 Maturity Structure

Table 10.8 shows the maturity breakdown of 73 outstanding issues of CGB at the end of 2003. Two to seven year bonds were issued in the early 1990s. Longer-term government bonds were introduced in order to spread out bond redemption dates. The 10-year, 15-year, 20-year, and 30-year government bonds were initially floated in the market in 1993, 1995, 1998 and 2001, respectively.

Table 10.8: Breakdown by Tenor of Outstanding Government Bonds, 2003

(in US$ million)

Year	Total	2-Year	5-Year	7-Year	10-Year	15-Year	20-Year	30-Year
1994	2,834	-	-	-	2,834	-	-	-
1995	1,888	-	-	-	-	1,888	-	-
1996	6;555	-	-	-	4,916	1,639	-	-
1997	4,536	-	-	-	1,047	3,489	-	-
1998	3,589	-	-	897	897	897	897	-
1999	8,764	-	930	-	3,406	2,479	1,949	-
2000	11,095	-	961	1,601	2,241	2,562	3,730	-
2001	12,929	-	-	-	2,071	4,438	5,237	1,183
2002	12,325	3,904	2,927	-	3,181	-	2,313	-
2003	13,212	2,898	4,213	-	4,213	-	1,888	-
Total	77,727	6,802	9,029	2,498	24,807	17,391	16,015	1,183

Source: The Treasury Department, the Central Bank of China

Figure 10.5: Breakdown by maturities of Outstanding Government Bonds end-1996

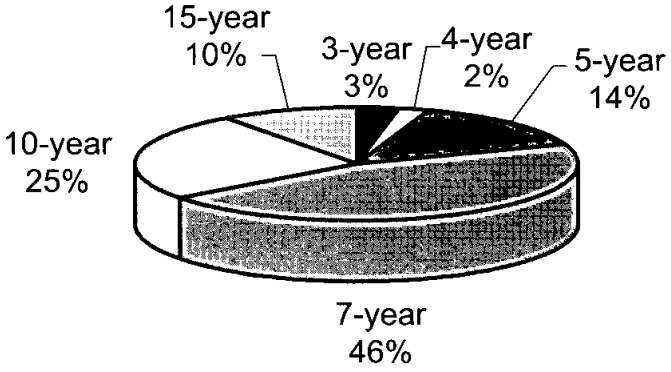


Figure 10.6; Breakdown by maturities of Outstanding Government Bonds end-2003

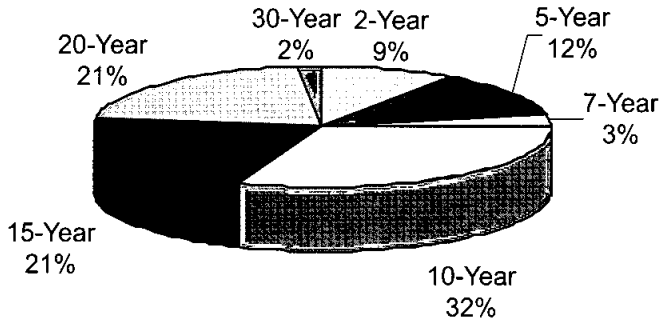


Figure 10.7: Maturing Dates of Government Bonds (End-2003)

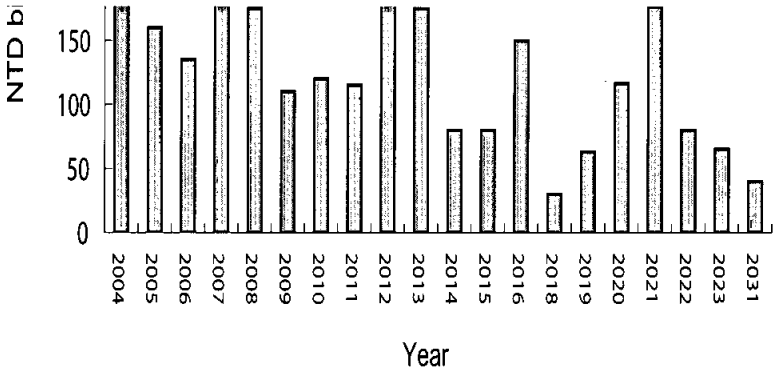


Figure 10.5 and Figure 10.6 are the breakdowns of outstanding CGB by maturity in 1996 and 2003. In 1996, 7-year bonds accounted for 46% of all outstanding CGB, followed by 10-, 5-, and 15-year bonds. In 2003, 10-year bonds accounted for 32%, followed by 15-, 20-, and 5-year bonds.

Issuances are made with consideration to the amount of outstanding bonds with different maturing dates (Figure 10.7). The aim is to keep government debt repayment at relatively similar levels each year.

2.3 Primary Market

The development of Taiwan's bond market gained momentum with central government bonds tenders in late 1991. Following the introduction of the Central Government Securities Settlement (CGSS) system in 1997, bonds are no longer issued in physical form. The CBC upgraded the CGSS to facilitate the conversion of outstanding physical bonds in 1999. The Book-Entry Treasury Bills Programme was introduced in 2001. These measures have accelerated the dematerialisation of government securities and enhanced the efficiency and security of trading government securities. In order to achieve delivery versus payment and reduce settlement risk of government securities transactions, the CGSS system will soon be linked to the CBC Inter-bank Funds Transfer System (CIFS).

The CBC's Electronic Bidding System began operation in 2001. It was designed to improve the auction process of government securities and minimise errors and delays arising from handling bids manually. It was expanded later and users can access information related to auctions and transmit data through the system without delay.

During the past three years, the main factors that have aided the sound development of the local bond market include the following:

1. In July 2002, the government implemented the policy of offering an appropriate amount of public debt on a periodic basis.
2. In April 2003, re-open issuance of government bonds started.
3. In November 2003, the primary dealers system was implemented.

2.4 Secondary Market

The secondary market is the market for investors to trade bonds or for bondholders to sell bonds for cash. Recently, bond trading is mainly conducted in the OTC (over-the-counter) market with only a few traded in the stock exchange. In order to facilitate smooth trading, the Gretai Securities Market (GTSM, the OTC market in Taiwan) set up a series of guidelines to standardise the market.

During the past three years, the primary measures that have been taken to improve secondary bond market operations included:

1. In October 2002, short selling of government bonds was allowed.
2. In December 2002, when-issue market trading of government bond started.
3. In March 2003, forward agreements for government bonds began trading.
4. In August 2003, the GTSM set up Electronic Corporate Bonds and Debentures Trading System (renamed Fixed Income Securities Trading System in March, 2004), a trading platform for exchanging price information between securities firms on corporate bonds and bank debentures.
5. In January 2004, the bond borrowing and lending center was established.
6. In January 2004, Taiwan Futures Exchange offered trading in futures contracts on 10- year government bonds.
7. In May 2004, the 10-year Government Bond Index was compiled.
8. Various bond-related financial derivative products were introduced, e.g., interest rate swap trading, convertible bond asset swaps, NT dollar-denominated structured notes, principal guaranteed products, equity-linked notes, etc.

The reforms in both of the primary and the secondary markets resulted in the enhancement of soundness of the local bond market. Trading value in the treasury securities market averages over US$20 billion in a business day. Indeed, a liquid and efficient market contributes to the stability of Taiwan's economy and financial systems.

3. Bond Market Infrastructure

The bond market infrastructure in Taiwan is quite mature. Taiwan's companies have internationalised relatively early. The international norms in accounting and auditing are adhered to and accurate and transparent financial reports are compiled.

3.1 Regulatory Framework

The government established a regulatory framework for the development of the domestic bond market. The main regulatory authorities include the Ministry of Finance (MOF), the CBC and the Securities and Futures Commission (SFC).

According to the Public Debt Act, the MOF is the competent authority of central government bonds. The total amount of public debt for all levels of government cannot exceed 48% of average nominal GNP of the previous three years. The CBC consults the MOF on the operation for the tender sale of the bonds and the qualifications of the bidders.

Banks, bills finance companies, securities firms, and insurance enterprises that meet a certain criteria may apply to the Treasury Department of the CBC to act as a central government bond dealer and participate in CGB tender sales and placements. Government bond dealers must participate in every government bond auction, make reasonable bids, and provide two-way quotations in the secondary market. Since the inception of the system the number of dealers had increased from less than 20 to 76 at the end of 2003.

The SFC is the competent authority for the bond market. The Taiwan Stock Exchange and GreTai Securities Market (GTSM) are authorised by the SFC to supervise the centralised market and OTC market respectively. Currently, the GTSM is in charge of the OTC trades of bonds and responsible for the drafting of listing, trading and settlement systems for bond and derivatives, maintaining market order, and administering securities firms. In Taiwan's bond market, the majority of bond trades are carried out through negotiation at the OTC while only a small number of convertible bonds are traded in the centralised market. All outright trades of government bonds in 2003 went through GTSM electronic bond trading system, amounting to nearly 90% of total outright trades.

3.2 Settlement and Clearing System

Since the introduction of the Central Government Securities Settlement System (CGSS) in September 1997, CGBs have been issued in the book-entry form. In October 2001, Treasury bills were added to the system and have been issued in the book-entry form since then. The CGSS is a real-time gross settlement system (RTGS) for the issuance, transfer, redemption, and interest payment of CGBs in the form of accounting entries on computer records.

Ownership of book-entry central government securities is recorded in a two-tier system of accounts. Only the clearing banks are eligible to hold book-entry bond accounts and fund accounts (also serve as reserve balances) directly with the Treasury Department of the CBC. All other individuals or entities are required to hold such accounts with the clearing banks.

Currently, book-entry transactions within a clearing bank can be made on a delivery-versus-payment (DVP) basis while those between clearing banks cannot. To reduce the settlement risk in inter-bank transactions and establish a system that meet international standards, CBC plans to link the CGSS with CBC

Inter-bank Funds Transfer System (CIFS), the real-time gross settlement (RTGS) system, to allow clearing banks to handle related settlements on a DVP basis.

It is worth mentioning that in April 2004, the Debt Instruments Depository and Clearing Company started operation, which involved the adoption of a Delivery versus Payment System and a Real Time Gross Settlement (RTGS) mechanism, two methods generally adopted in the international community. The company is currently involved in the money market and treasury bills business, but in the future, its area of operation will include all securities including bonds and hence will make Taiwan on par with international standards for clearing and settlements.

3.3 Rating Agency

There are four credit rating companies operating in Taiwan, including one domestic firm, Taiwan Ratings Corporation[4], and three foreign firms, Standard and Poor, Moody, and Fitch. Most of the financial institutions, including banks, bills finance companies, securities firms, and some big enterprises are rated by those credit rating companies. The number of Taiwanese companies being rated is growing rapidly.

Taiwan has strict regulations regarding the disclosure of credit ratings of financial institutions that go directly to the market to raise capital. According to the financial regulations, any company that wishes to issue debt without guarantee from a financial institution must have a credit rating. For companies with guarantee from a financial institution, the latter must have a credit rating. The creditworthiness of the companies that issue bonds must be rated and disclosed by the rating agencies.

3.4 Other Pertinent Issues

There are many ways to hedge risks in Taiwan's bond market. The government places a high priority in providing channels for hedging and has consistently instituted reform initiatives. For example, it has established a when-issue market, an interest rate futures market, markets for interest rate swaps and forward rate trading, as well as the OTC-style interest rate options, offering a complete set of tools for hedging. The future goals lie in promoting liquidity

4. Taiwan Ratings Corporation was established on 29 May 1997. TRC is Taiwan's first credit rating organisation to provide independent and objective assessments of the ability of banks, bills finance companies, securities firms, insurance companies, corporations, infrastructure projects and bond funds to meet their financial obligations.

in the individual markets of the instruments used for hedging. Since the legal framework for these hedging instruments has been completed, it will only be a matter of time before these instruments become actively traded.

4. Link between Domestic Bond Market and Central Bank Policy

4.1 Fiscal and Monetary Policy Coordination

The MOF is responsible for the administration of national treasury, customs, taxation, banking, securities and futures, insurance and management of national property. The National Treasury Agency, a subordinate of the MOF, enforces national fiscal policies. It is charged with maintaining a balanced budget, raising construction funds to meet the needs of national economic development, regulating public treasury systems and supervising the treasury administration at all levels of government, adjusting revenues and expenditures and secure economic stability through government debt policy. Therefore, the National Treasury Agency needs to manage the issuance and repayment of government bonds, treasury bills and external debts, as well as the drafting and review of related regulations.

The CBC conducts monetary policy independently. However, its final goals among others are to maintain financial stability and to foster economic development. Serving as the government's bank, the CBC needs to consult the MOF and other pertinent authorities when drafting and reviewing related regulations. In addition, the issuance and coupon rate panels have been set up to discuss the CGB issuance related matters before each issuance.

According to the Central Government Development Bonds and Loans Act, the CBC is in charge of managing government bond flotation and redemption of government bonds. Regulations concerning the management are to be drafted by the Ministry of Finance in consultation with the CBC. However, the same Act stipulated that the CBC might not assume the responsibility as issuer of the government bonds or act as lender, unless otherwise approved by the Legislative Yuan.

4.2 Objective and Strategy for Monetary Policy

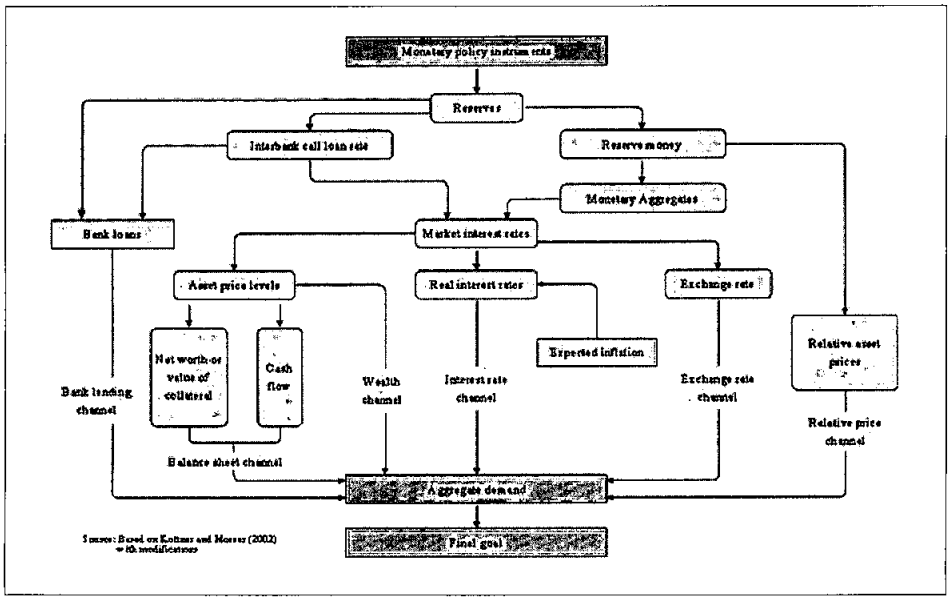
The CBC conducts monetary and foreign exchange policy, issues the nation's currency, and serves as the Bank of banks and the government. The four operational objectives laid out by the Central Bank Act are (1) promoting financial

stability, (2) guiding sound banking operations, (3) maintaining stable internal and external value of the national currency, and (4) fostering economic development within the scope of the above three objectives.

Monetary policy is the primary means through which the CBC achieves its operational objectives. In general, there are a variety of channels through which monetary policy affects economic activities¡]Figure 10.8¡^. It could be through interest rate, financial aggregates, exchange rate, or assets prices, each of which more or less plays a certain role in different time settings. The CBC currently uses the broad monetary aggregate M2 as the intermediate target for monetary policy.

Price stability is the main concern when making policy decisions. In practice, by adopting a strategy of monetary targeting, the CBC takes both economic growth rate and inflation rate as primary determinants to set its monetary targets. Under the current framework, a projected money growth rate target is announced on an annual basis and regularly reviewed during the year. The intended goals of monetary policy are disclosed by way of such procedure.

Figure 10.8: Monetary Policy Transmission



Bond market development has led to the replacement of direct financing for indirect financing. More and more businesses turn to capital market for funds. Under such a situation, the growth of bank loans to businesses has slowed in recent years. Banks have, therefore, become more aggressive in making consumer loans.

4.3 The Choice of Monetary Policy Instruments

Monetary policy instruments available to the CBC include open market operations, discount lending, reserve requirements, re-deposits of financial institutions, and selective credit controls and accommodations (Figure 10.9). Among these, open market operations are generally considered the most effective and flexible in the implementation of monetary policy. Through purchases or sales of eligible securities, the CBC can directly influence the amount of reserves and inter-bank call-loan rates in the banking system.

During 2003, liquidity of the banking system expanded due to optimism about the stock market's bullish prospects, the surge in foreign capital inflows, the expansion of trade surplus, an increase in firms' issues of overseas convertible bonds and depositary receipts, and the CBC's easing of monetary stance.

Figure 10.9: Monetary Policy Framework

Policy Instruments ⇩	• Reserve Requirements • Discount Windows • Open Market Operations • Financial Institution Redeposit • Selective Credit Management
Operating Target ⇩	• Reserve Money
Intermediate Targets ⇩	• Monetary Aggregates (M2, M2+Bond Funds)
Final Objectives	• Price Stability • Economic Growth

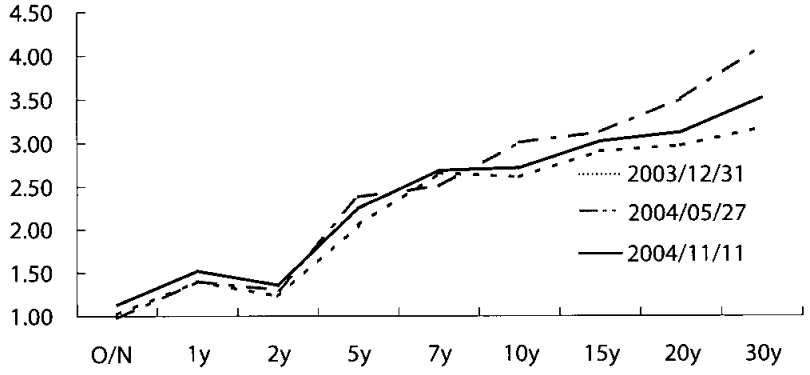
Therefore, the CBC issued certificates of deposit (CDs) or negotiable certificates of deposit (NCD) to stabilise market rates and to maintain an appropriate growth of the monetary aggregates M2 and M2 plus bond funds. The CBC also conducted repurchase agreement (repo) transactions on government securities to inject funds into the banking system to meet seasonal demands.

4.4 Benchmark Yield Curve

On-the-run bonds have been active and benchmark interest rates have begun to take shape due to developments which include the issuance of 2-year, 5-year, 10-year, 20-year and 30-year government bonds in appropriate amounts on a periodic basis, the opening up of the market to when-issued trading and to re-open issuance, the issuance of US$13 billion in government bonds each year, the stable development of Taiwan bond market, and adequate capital and active trading.

In 2003, the Taiwan bond market trading value was ten times that of the stock market, and outright purchases and sales value was 6.2 times that of the stock market. Furthermore, the volume of repurchase transactions in the market has steadily increased. Taiwan's repo market provides the bond market with an ample supply of inexpensive capital, which stimulates the rapid development of the bond market. Taiwan's bond futures started listing in the Taiwan Futures

Figure 10.10: The Central Government Bond Yield Curves



Exchange in January 2004. The outlook for these products is optimistic and trading in bond futures are expected to become active in the near future. These developments show that the Taiwan bond market has already been able to generate a reliable yield curve (Figure 10.10) that will serve as a valuable reference.

In theory, long-term rates are the average of current and expected short-term rates plus liquidity premiums. The forward rate equals the expected rates and liquidity premiums. Unfortunately, neither the expected short-term rate nor the liquidity premium is directly observable from market information. With a reliable yield curve now in place, long-term rates will change immediately relative to short-term rates to reflect changing expectations.

Normal yield curves can generally be characterised as consistent with expectations of rising interest rates, while inverted yield curves are consistent with expectations of declining interest rates. The difference between unbiased expectations (short-term rate remains constant) and the yield curve represents the size of the liquidity premium.

Any economic development or report that raises the expectation of higher rates of inflation - for example, lower unemployment or higher retail sales - tends to lower bond market prices and increase bond yield. Conversely, negative news, such as higher unemployment or weak GDP growth, reduces inflationary concerns, raises bond prices and lower bond yield.

Monetary policy makers need to evaluate the trends in aggregate economic activity in terms of the percentage change in real GDP, CPI, foreign exchange rates, financial stability and other economic indicators to decide the desired liquidity premium they have in mind and monitor the slope of the yield curve. If the slope of the yield curve deviates too much from the equilibrium interest rate, then they need to take necessary actions to modify the curve.

Generally, central bankers and analysts look at the short-term rate (1-year rate or less) versus long-term rate (10-year rate). If the long-term rate exceeds the short-term rate, the yield curve is upward-sloping. This generally occurs during periods that coincide with monetary ease and when short-term rates are low. Short-term rates exceed long-term rate (i.e. the yield curve is inverted) when rates reach their cyclical peak and then falls when the central bank restricts money growth.

4.5 The Role of Central Bank in the Bond Market

The Taiwan government understands that a robust bond market may help to reduce any unexpected excessive monetary expansions and contractions. It is then able to stabilise money supply, to lower end-of-period asset and liability mismatches of financial institutions, and to narrow the gap between domestic and foreign interest rates. Therefore, the government took various measures to promote the soundness of bond market and formed a "Financial Reform Task Force" in 2002.

Although the CBC is not the competent authority of the bond market, it is still very concerned about the sound development of the market. The Government Bonds Primary Dealer System was implemented in 2003 when the Primary Dealers were chosen from government bond dealers by the CBC and appointed to act as market makers who are obligated to provide liquidity and quotation of each benchmark. In 2003, there were nine Primary Dealers (PDs) include two banks, two bills finance corporations and five securities houses. Two more PDs were approved in 2004.

Moreover, the CBC accepts upon approval the entire asset backed securities (ABSs) held by local banks as eligible liquidity reserve assets to meet the liquidity requirements for the banking system.

4.6 Views on Asset Backed Securities

ABSs are expected to contribute to promoting smooth corporate financing by reducing credit risks through diversification as well as by reallocating credit risks to investors with various risk preferences. Directly assuming credit risks through purchases of ABSs encourages the development of the ABS market. However, due to the fact that different types of ABS have different kinds of risk, fair evaluation of the quality of the securities is not easy. Currently, the CBC will only accept ABSs as an eligible liquidity reverse assets.

Although ABSs improves the efficiency of financial institutions' operations, it may reduce the effectiveness of monetary policy. For instance, if ABS replaces a part of bank loans, it will hinder monetary policy's ability to transmit through the bank credit channel. When ABS improves the liquidity position of the banking system, it reduces the CBC's role in providing banks with liquidity. The effect of a contractionary monetary policy aimed at curbing liquidity is therefore limited in an overheated economy.

ABS entails different kinds of risks, which include credit risk, prepayment risk, liquidity risk, interest rate risk, and re-investment risk. Credit risk can be reduced if the issuer set up a reserve fund out of the payments to cover losses, purchase insurance, or obtain a letter of credit. Prepayments in mortgage-backed securities (MBS) generally occur because of fundamental demographic trends as well as from movements in interest rates. Prepayment risk is the most serious problem to an investor who sells the option because the cash flows are unpredictable. Suppose that mortgage rates fall sharply, some mortgage borrowers will exercise their option and refinance their properties with new mortgages at lower rates in order to save interest payments. If prepayments are substantial, all outstanding principal may be quickly repaid so that the MBS effectively matures earlier than the original scheduled time. Investors lose because they paid a premium expecting to receive high interest payments for several years. With the decline in rates, they not only receive considerably less interest over a shorter period of time (interest rate risk), but they have to reinvest their cash receipts at lower rates (re-investment risk). If prepayments are high enough, they may not even recover the premium paid. The total return can be negative.

ABSs are designed to reallocate credit risks to investors with various risk preferences. If the purpose of a central bank to purchase is to contribute to the sound development of the ABS market, it should pay due attention to the characteristics of various types of ABSs and select certain tranches with relative lower risk to minimise risks.

5. Challenges and Strategies to Develop A Well-functioning Bond Market

5.1 Factors Hindering Bond Market Development

5.1.1 Tax Treatment of Bonds for Foreign Investors is an Obstacle

There is a withholding tax imposed on bond interests earned by foreigners and tax treatment in a situation where there is no tax treaty between Taiwan and the country of citizenship, foreign institutions register operating losses, non-citizens will be taxed twice, discouraging them to invest in the Taiwan bond market. This is detrimental to the development of the market. The government is currently promoting a bond interest income separation tax at a uniform rate of 20%. If Taiwan wants to further develop the bond market, it must attract

foreign capital, which makes reforming the tax structure, forming a tax treaty, and modifying the double taxation provisions all the more important.

5.1.2 Short-selling for Bonds has yet to Become Popular

The trading value in the Taiwan bond market is exceedingly large, not only in outright purchases, but also in repurchase agreements. This shows that the liquidity of bond market transactions is very high. However, this liquidity is mostly concentrated in government bonds, with the liquidity of non-government bonds in contrast being quite low.

Although Taiwan allowed short selling of government bonds to take place in October 2002, this practice is still not popular and short selling is limited. There are currently three channels in Taiwan for short selling bonds. They are short selling by means of resale agreement transactions, short selling government bonds in the OTC market, and first short selling bond futures and then settling them in the spot market. It is expected that the short selling of bond transactions will be much more active in the near future.

5.2 Measures /Strategies for Developing Bond Market

5.2.1 Past Efforts /Recent Initiatives

In the early years when all of Taiwan government bonds were bearer bonds, trading value was limited. The number of bond issues and trading value began to expand rapidly after 1997 when the government bonds switched to a book-entry system. In addition, in 2001, the government initiated an electronic trading network, which changed the trading habits of securities dealers, raised the transparency in transaction, as well as increased security to allow trading volume to grow further. In 2003, GTSM instituted a price quotation system for corporate bonds and financial debentures to further enhance the efficiency of clearing and settling non-government bonds. (For more details, please refer to the sections on primary market and secondary market (Section 2, Part 2.3 and 2.4).

5.2.2 Measures to Further Develop the Market

There are many small and medium enterprises (SMEs) in Taiwan with a high demand for capital. These SMEs can raise inexpensive capital through asset securitisation and credit enhancement mechanisms. For example, the relatively

small amounts of bonds issued by SMEs in the form of convertible bonds or euro convertible bonds can be bundled together with outstanding bank loans. These bundles can then be securitised and the credit of the issuer guaranteed to create a bond that is more widely issued and also more liquid. Such an arrangement will not only lower the cost of capital for SMEs, but will also increase the liquidity and creditworthiness of the bonds issued. This is a situation where many advantages can be garnered from a single arrangement. In order to ensure that asset securitisation and credit enhancement mechanisms lower the cost of capital for SMEs, the government could encourage competition among banks to lower the costs associated with asset securitisation and credit guarantees. In addition, government administrative procedures should be simplified and costs lowered to ensure that banks are willing to lend to SMEs, and so that the costs of asset securitisation can also be lowered. These initiatives will encourage SMEs to issue bonds to gain adequate financing.

6. Conclusion

For the Taiwan economy, the robust bond market will stabilise money growth, reduce the possibility of asset and liability mismatches of its financial institutions, and help narrow the gap between domestic and foreign interest rates. However, bond market development has increased direct financing and gradually replaced indirect financing. This has caused the growth of the volume of bank loans and M2 to decelerate and has undermined the effectiveness of monetary policy as it is mainly transmitted through the bank-lending channel. Fortunately, the CBC has a variety of channels through which monetary policy affects economic activities. The CBC works closely with the government to strengthen the sound development of the bond market.

Currently, Taiwan's bond market seems to have established an environment favourable for robust development of the domestic bond market, including: (1) a comprehensive system for bond trading, clearing, and settlement; (2) a low tax rate for citizens that stimulates demand for fixed income products; (3) an adequate number of domestic institutional investors; (4) high liquidity in secondary bond markets; (5) the existence of a reliable yield curve; and (6) a broad range of opportunities for hedging.

However, there are also several issues of concern, such as: (1) limited short-selling of debt instruments; (2) trading in the newly-established interest rate swaps

market is still not very active; (3) the domestic bond market has yet to provide a favourable tax structure to attract foreign investors; and (4) the credit rating system needs more promotion and participation.

Chapter 11
Development of Domestic Bond Market and Its Implications for the Central Bank in Thailand

by
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1. Overview

The breakdown of financial crisis in 1997 has lightened the imbalance in the Thai financial system, as it had been overly reliant on the banking sector. The bond market development plan was then initiated to rebalance the system. The plan was put in the high priority, with the aims to achieve the following tasks.

1. A better financial resource distribution among available channels - bank financing, equity financing, through the stock market, and debt financing, through the bond market.
2. A wider funding and investment alternative, other than banking intermediary, for borrowers and investors.
3. A reliable and cost effective funding source for the government to finance their budget deficit.
4. An effective transmission channel for monetary policy implementations, under the inflation targeting framework.
5. A risk-free benchmark, which could help bring about other financial instruments development.

Figure 11.1 shows that although bank loans still dominate the bulk of financing in the country, the share of bonds financing has increased steadily

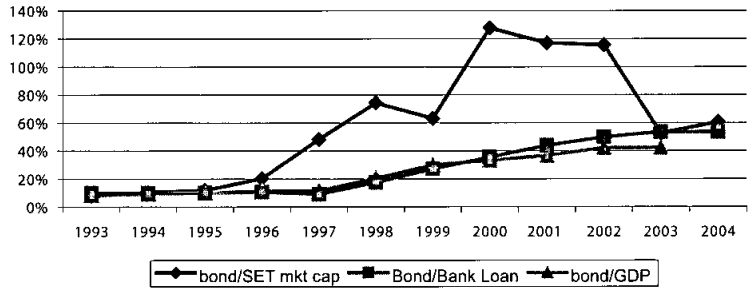
2. Recent Developments of Domestic Bond Market

2.1 Types of Debt Instruments

Bonds issued in Thailand can be divided into two major components: government sector and corporate sector debt securities. Government sector debt securities consist of four major types:

1. Authors are Analyst, Financial Markets Operation Group and Economist, Monetary Policy Group of Bank of Thailand respectively.

Figure 11.1: Share of Financing in Thailand



1. Treasury Bills (T-Bills) are short-term debt instruments with maturity less than 1 year. The bills are sold on a discount basis.

2. Government bonds are medium to long-term debt instruments issued by the Ministry of Finance. They consist of three types; Investment bonds (IB), Loan bonds (LB) and Savings bonds (SB). While IB has not been issued since 1991 and there are only few issues remaining, LB captures the majority of the market as they are issued for financing budget deficit. SB is issued to provide retail investors with alternative sources of saving.

3. Bank of Thailand (BOT) bonds, Financial Institution Development Fund (FIDF) Bonds and Property Loan Management Organization (PLMO) bonds are issued by the central bank, the FIDF and The PLMO respectively. The FIDF and PLMO bonds are no longer issued and there are only few remaining, while the BOT bonds are still issued regularly.

4. State Owned Enterprise (SOE) bonds are medium to long-term debt instruments issued by State Owned Enterprises. This can be categorised into 2 types; guaranteed and non-guaranteed by the Ministry of Finance (MoF) of which the guaranteed bonds account for 86% of total. However, there are restrictions on the government to provide debt guarantee for not exceeding 10 % of total budget expenditure. Only MoF-guaranteed bonds are eligible for liquidity reserve requirement, as same as government bonds.

5. Corporate sector debt securities. The corporate sector began to issue bonds in 1992 after the enactment of the Securities and Exchange Act B.E.2535 (SEC Act) that has eased criteria for the issuance of corporate bonds.

Structures of bonds include Straight, Floating Rate Notes (FRN), Amortizing and Convertible. The bonds with more varying features are increasingly issued in recent years.

2.2 Size and Structure

2.2.1 Size of the Market

The size of the Thai bond market has been increasing significantly, especially for government bonds, after the 1997 crisis, with the government needing to borrow in order to fiscalise the cost of financial sector restructuring. The total outstanding of the market, as of end of 2004, was at USD 68.05 billion, compared to USD 17.43 billion at the end of 1997. The market is dominated largely by government sector debt securities, which currently account for approximately 80% of total outstanding, as can be illustrated in Table 11.1

Table 11.1: Outstanding Value of Thai Bonds
(in billion of USD)

	1997	1998	1999	2000	2001	2002	2003	2004
Government Bonds	0.44	10.32	15.52	16.40	15.88	25.92	27.26	32.81
T-Bills	-	-	0.66	1.54	2.47	3.12	3.06	4.17
State enterprise Bonds	9.37	7.27	9.42	10.18	9.35	9.20	9.93	10.06
BOT/FIDF Bonds	1.64	0.88	0.48	0.10	2.52	2.61	5.76	7.76
Corporate Bonds	5.98	4.29	10.62	12.48	12.10	12.64	14.62	13.62
Total	**17.43**	**22.75**	**36.70**	**40.71**	**42.33**	**53.49**	**60.63**	**68.05**

2.3 Issuers Characteristics

2.3.1 Types of Issuers

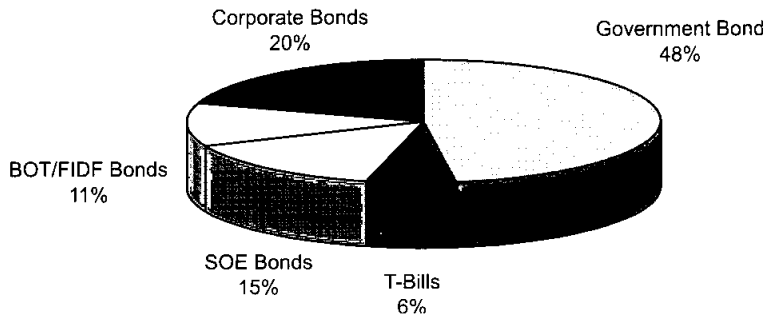
Issuers of debt securities in Thailand can be divided into 3 groups, namely government, government agencies (including state owned enterprises) and corporate. Government and government agencies are the largest debt issuers, as mentioned earlier with the government sector debt securities accounting for approximately 86 % of the total outstanding. These securities usually possess

simple fixed coupon feature, although there are plans by the authorities to issue debt securities with wider variety of features, for example, floating rate notes and index linked bonds although the market condition is not yet ready for these securities.

Corporations could also finance their shortfalls via debt securities issuing, especially after the enactment of the Securities and Exchange Act in 1992, if they have good enough credit ratings and could pass rigorous regulatory requirements. Most prime credit rating corporations in Thailand have issued debt securities after the 1997 crisis since banks had been reluctant to lend money during the high NPL period. The corporate bond market grow by three folds from end of 1997 to 2004 and usually have more diverse features, such as floating rates notes, amortising, convertible and recently, bonds issued under the securitisation structure are seen more often. However, due to the limited number of qualified corporations in Thailand, the corporate debt outstanding is relatively small, compared with the total market outstanding.

Besides the above mentioned, supranational organisations could be an additional group of issuer in the Thai bond market in the near future, as some have already been permitted, by the relevant authorities including the MoF, the Bank of Thailand and the Securities and Exchange Commission, to issue THB denominated debt securities in Thailand.

Figure 11.2: Bond Outstanding by Instruments as of 2004



2.3.2 Issuance Purposes

Generally, the issuance of debt securities, whether by the government or corporate sectors, usually stemmed from a few similar reasons of:

1. The need to finance budget deficit or business expansion.
2. The need to restructure existing debt portfolio, either in the aspect of refinancing the higher interest rate bearing debt with the lower one or alternating the debt maturities structure.

However, there could be some other reasons for debt securities issuance in Thailand, for example, the Bank of Thailand bond has been issued purely for liquidity absorbent purpose.

2.4 Investor Characteristics

Major investors in the Thai bond market comprise of banks and other financial institutions, asset management institutions, insurance companies, corporations and individuals. Each group of investor seems to have its own investment characteristic as can be briefly described as follows:

1. Banks and other financial institutions, though the largest holders of bonds, are usually the holders of short to medium term bonds as they are the most liquid part of the yield curve, and thus entail lowest risks. Banks and financial institutions, particularly the primary dealers institutions, are the most active players in the bond market, in terms of portfolio rebalancing trading and market making. Recently, banks have reduced their investment in the bond market, given their inclination towards extending credit to the private sector.

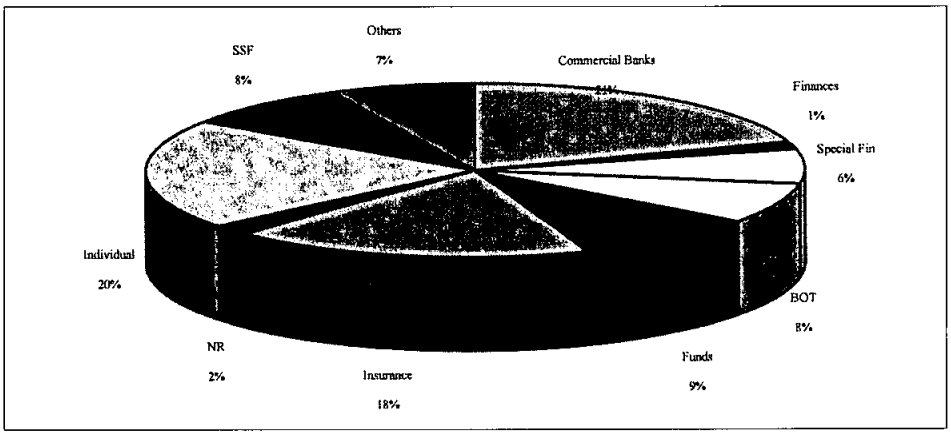
2. Asset Management Institutions, consisting of pension funds, provident funds and mutual funds, could be the investors who invest in the most diversified sectors of bonds, depending on their investment policies and objectives.

3. Insurance Companies, usually the life insurance companies who have significant role in the bond market, are the main players for the long end bonds.

4. Corporations normally invest in the shortest end bonds or treasury bills in order to manage their operating liquidity. Most of the time, bond market investments could yield higher returns than bank deposits.

5. Individuals are major investors of savings bonds and prime grade corporate bonds. They usually buy and hold the bonds until maturity, with the aim to get periodic coupon payments.

Figure 11.3: Profile of Government Securities Holders as of 2004



2.5 Maturity Structure

The maturity structure of government bonds range from bonds with maturity of less than 1 year, the so called Treasury bill, to the longest maturity of 18 years. The outstanding of government bonds are mostly in the maturity of 5 to 10 years, while the least are in the longer maturity of than 10 years.

For state agencies and state-owned enterprise bonds, the most concentrated sector would be in the less than 5 years sector and the least would be in the longest sector of 10 years and above, similar to that of government bond.

Table 11.2 : Maturity Structure of Government Sector Bonds as of Nov, 2004

Maturity Structure of the Government Sector Bond , as of Nov 2004 (million of USD)					
Issuers	TTM <1 yr	1 <= TTM < 5 yrs	5 <= TTM < 10 yrs	TTM >= 10 yrs	Total
Government (Bonds & Bills)	6,626	8,323	12,360	4,544	31,853
(%)	*14*	*18*	*26*	*10*	*67*
State Agencies and State-owned Enterprises	7,372	5,422	2,347	238	15,379
(%)	*16*	*11*	*5*	*1*	*33*
Total	13,998	13,745	14,707	4,781	47,232
(%)	*30*	*29*	*31*	*10*	*100*

For corporate bonds, the maturity at issuance would range mostly around 3 -5 years with the longest of 14 years. However, due to the lack of information and depository centres for corporate bonds, together with the variety of features embedded in the bonds, their exact maturity structure is rather difficult to obtain and may not provide good comparison to that of the government sector bonds.

2.6 Primary Market

After the crisis, the Ministry of Finance, in collaboration with the Bank of Thailand, have made significant development of the primary market, though focusing mainly on the government issuances. The major developments include:

1. The setting up of the Public Debt Management Office and the enactment of the Debt Management Law, which will facilitate and enhance the public debt management flexibility.

2. The announcement of a regular programme for government bond and treasury bill auctions and the calendar of the government debt issuance which can

be accessed through the Bank of Thailand and the Ministry of Finance websites

3. The changing of auction procedure for government bonds, treasury bills and FIDF bonds, from the uniform price Dutch auction method, to the multiple price American auction method, with the aim to develop the price discovery process and the secondary fixed-income market.

4. The introduction of Primary Dealers (the list for outright transaction) whose responsibilities are to participate in government bond auctions and maintain a certain percentage of the primary auction allotment and being the consultants to the Ministry of Finance in formulating the securities issuance plan.

5. The means to broaden investor base and encourage long term saving in the country, examples of which are the introduction of Non-competitive Bidding Scheme for smaller size investors and the issuance of saving bonds with features that specially set for retail investors.

6. The introduction of an electronic bidding system by the Bank of Thailand, the government's fiscal agent, for the on-line submission of bids which help reducing turn around time for dealers and traders and support the secondary market trading.

Moreover, the authorities are working to develop new debt instruments, such as STRIP bonds, Floating Rate Notes, Index Linked Bonds and Zero-coupon Bonds, to better serve the need of the market participants.

2.7 Secondary Market

In the bond market development plan, a great deal of effort has been put in order to promote secondary market trading and liquidity, including:

1. The setting up of Primary Dealers system (as afore mentioned), whereby institutions are required to act as market-makers, quoting 2-way firm prices for the benchmark issues and provide daily indicative prices for all government bonds issues.

2. The development of the bond hedging and liquidity managing instruments, such as repurchase market, interest rate swap, interest rate futures and other derivatives.

3. The move towards the indirect monetary policy implementations approach of the BOT since 1999. Both outright and bilateral repurchase transactions conducted by the BOT have helped boost up the bond market liquidity significantly.

4. The construction of risk free government bonds yield curve, which serves as a benchmark for daily mark to market and for other financial instrument pricing.

Table 11.3: Daily Trading Volume in the Secondary Market

Unit: Million USD

	2001	2002	2003	2004
1. Government Bonds	84	112	113	107
2. Treasury Bills	32	67	56	94
3. State Enterprise Bonds	13	11	10	11
4. BOT Bonds / FIDF	9	6	54	78
5. Corporate Bonds	8	9	21	12
Total	**146**	**204**	**254**	**301**

Source: Thai Bond Dealing Center

3. Bond Market Infrastructure

3.1 Regulatory Framework

A robust regulatory framework, that encourages bond market transactions, is critically important for the development progress. There have been lots of changes in the regulatory framework on various levels to accommodate issues in the bond market development processes, ranging from the enactment of new legislation, the amendment of existing law, the clarification of regulation and the expansion and policy statements to cover the newly developed transactions. Examples of these include:

1. The enactment of Public Debt Management Act to allow the flexibility for government to issue bonds
2. The amendment of the SEC Act to allow the mutual funds to sell bond on the repurchase transaction and to allow multi-tier depository structure at the Bank of Thailand, the clearing and settlement operator for all government sector bonds.
3. The waiver of capital gain tax and stamp duty on repurchase transaction from the Revenue Department.
4. The capital gain and interest income tax exemption for Non-residence investment in government sector bonds
5. The provision of repurchase transaction policy statement by the Bank of Thailand in order to give a clear transaction scope and guideline for the financial institutions.

3.2 Settlement and Clearing System

An efficient clearing and settlement system for securities is absolutely essential for the active execution of trade at the front offices. At present, the Bank of Thailand is responsible for the settlement of public debt securities, for it acts as both depository and registrar. With the aim of reducing settlement risk, the Bank of Thailand has developed the Delivery Versus Payment System (DVP), also known as BAHTNET II, which has been in operation since 21 December 2001. BAHTNET II is expected to greatly benefit market participants by reducing settlement risk, improving convenience and services as well as allowing the integration of future services and new financial instruments. For corporate bonds, they are cleared and settled at the Thailand Securities Depository (TSD), and are transferred on a book entry-basis.

Going forward, the clearing and settlement system for government securities will be run outside the Bank of Thailand in accordance with the government policy to centralised all clearing and settlement across all securities and to develop an international linkage. However, the Bank of Thailand must be ensured that its market operations and the linkages with the Bank's payment system can be taken place smoothly under the new operator.

3.3 The Role of Rating Agency

At present, two rating agencies have been approved by the Office of the Securities and Exchange Commission (SEC). These two agencies are **TRIS**

Rating Co., Ltd. (since May 8, 2002) and **Fitch Ratings (Thailand) Limited** (since February 20, 2001). Their major role in developing the Thai Bond Market is to provide ratings for both equities and debt securities. This applies especially for public issuance in the primary market, whereby the SEC's disclosure and rating requirements are meant to protect individual investors. Also, in the secondary market, these rating agencies continuously monitor and revise the quality of the rated securities and disclose the updated information publicly.

3.4 Other Pertinent Issues

3.4.1 The Bond Market Self Regulatory Organization (SRO)

The Thai Bond Dealing Center (ThaiBDC), established under the SEC Act since 1998, has been assigned by the SEC to perform the SRO functions, in addition to the market information and market coordination center function, early this year. The ThaiBDC can now set rules and conduct examinations on all dealer members. To reinforce the SRO role of the ThaiBDC, the SEC plans to announce its regulation requiring all dealers to be the ThaiBDC members.

3.4.2 Electronic Trading Platform

With the aim to completely incorporate trading information in the market to facilitate its SRO role, the ThaiBDC has launched an electronic trading platform service in October, 2004. The platform is not very widely used at the first stage due to the unfamiliarity and the additional cost involved

3.4.3 Securities Lending and Borrowing and Collateral Management

The Thailand Securities Depository (TSD), currently the clearing and settlement for equity and some corporate bonds, has been assigned to develop a system and act as agent and operator for these transactions in the market. The development is expected to be ready by 2005. The project maybe further expand to include the integration of clearing and settlement system of all securities to form the Central Securities Depository, which could help facilitate cross border linkages.

3.4.4 The Short-term Interest Rate Reference

The Bank of Thailand, in collaboration with the Thai Banks and Foreign Banks Associations, are building up a short term interest rate reference, the so called the Bangkok Interbank Offer Rates (BIBOR). The reference rate of 7 tenors ranging from 1 day to 12 months will be quoted by member banks and distributed via newswires commencing on January 4, 2005 onwards. The Bank of Thailand will then encourage all market participants to lend and borrow against this new reference curve instead of the implied swap rates, which is interfered by factors in foreign exchange market.

4. Link between Domestic Bond Market and Central Bank Policy

4.1 Fiscal and Monetary Policy Coordination

There have been rules governing the conduct of fiscal and monetary policies that allow the authorities to respond to changes in domestic and international economic conditions with explicit targets. Prior to 1987, there were times when fiscal and monetary policies were inconsistent. Monetary policy coordination improved after 1987 as a result of fiscal reforms starting in the mid-1980s. Immediately after the 1997 Asian crisis, the Bank of Thailand let the baht float almost freely for a period of time. The monetary rule changed from exchange rate targeting to monetary-base targeting under the influence of the IMF's adjustment programmes, and later to inflation targeting since May 2000. A continuation of accommodative monetary policy during the recession and low inflation period ensued after the crisis. A sizeable depreciation of the baht and a decline in the interests rates confirmed that money policy tended to be counter-cyclical. Fiscal policy has also been counter-cyclical, with the structural deficit. The government also attempted to enhance the speed and effectiveness of budget disbursement by introducing front-loaded expenditure and fostering disbursement of funds by government agencies.

Monetary policy has followed a flexible inflation targeting rule in the post-1997 period, with the core inflation target of 0-3.5 per cent, using short-term interest rate as an instrument while the exchange rate is a managed float. The fiscal authority has also followed a highly counter-cyclical target of nominal public sector budget deficit, of which it announces only the central government's on-budget part. Evidence that there is a joint monetary-fiscal targeting rule in Thailand is non-existent.

The Public Debt Management Office, an agency in the Ministry of Finance, is responsible for debt management. Its functions is formulating and delivering public sector borrowing policy and public debt management policy, especially participating in public sector borrowing policy, public debt management policy, government foreign lending policy, government borrowing, and debt management operations.

The Bank of Thailand has been authorised by the Finance Ministry to manage government debts since its inception as the Thai National Banking Bureau. Initially, government borrowings tended to be used for financing specific projects particularly those relating to economic and social development. Subsequently, borrowings were made to finance budget deficits. Instruments of borrowing included issuance of treasury bills or government bonds. Short-term borrowings would take the form of treasury bill auctions. Because of unattractively low rates of return, most of the treasury bills normally ended up in the hands of the Bank of Thailand. As for long-term borrowing, the Bank would issue government bonds which might be in the form of direct borrowing from the Bank or borrowing from the general public. Apart from issuing debt instruments, the Bank of Thailand was also responsible for the sale of bonds, payment of interests, and giving advice to the Public Debt Management Office about the determination of maturity period and interest rates.

The Bank of Thailand is vested with the duty of maintaining financial stability which is partly achieved by limiting government borrowing. Lending to the Government is generally lower than the requested amount, the reason being that the Bank's direct lending is equivalent to creating money supply or simply issuing bank-notes, thereby aggravating inflationary effects. Thus, the Bank of Thailand is in a position to oppose excessive government borrowing by engaging itself in the annual budgetary allocation.

4.2 Objective and Strategy for Monetary Policy

There are three objectives for Monetary Policy in Thailand.

4.2.1 The Use of Core Inflation as the Policy Target

The Monetary Policy Committee (MPC) decided to exclude raw food and energy prices from Headline inflation in the computation of core inflation, the target for monetary policy. This is because prices of excluded items, such as rice

and cereal products, meats, fruits and vegetables, electricity and gasoline are highly volatile. Raw food prices are dependent on weather conditions, whilst energy prices are subject to uncontrollable external factors. Retaining these items in the target measure may lead to perverse monetary policy operation by the MPC. For instance, when prices of raw food and energy rise, a tight monetary policy to slow aggregate demand will exacerbate the situation in which the purchasing power of the public is already depressed. Despite the exclusion of raw food and energy items, a large part of the information is still retained in the measure of core inflation, accounting for about 81 per cent of the data used in constructing the consumer price index. Historical data show that core inflation is less volatile in the short run. However, in the long run, the movements of both core and Headline inflation rates closely track one another. Over the past 10 years, core and Headline inflation averaged 4.7 and 4.8 per cent, respectively. Since the trends in the two measures of inflation move together in the long run, the maintenance of price stability in terms of core inflation will therefore lead to overall price stability.

4.2.2 Setting the Target Core Inflation at Between 0 - 3.5 Per Cent.

The inflation rate of Thailand's trading partners averaged about 3.5 per cent during the past 10 years. Ensuring that Thailand's inflation rate is in line with those of trading partners enhances export competitiveness, which in turn leads to the stability of the Thai baht. The MPC considers the 0 - 3.5 per cent target range for core inflation to be appropriate for the Thai economy. The target band width of 3.5 per cent will help cushion temporary economic shocks and minimise the need for the MPC to adjust monetary policy frequently, thereby reducing short-term interest rate volatility and promoting financial stability.

4.2.3 Use of Quarterly Average Core Inflation as the Target

The MPC decided to use the quarterly average of core inflation as the policy target, as monthly figures are volatile. This is consistent with the macroeconomic model, which also employs quarterly data in producing forecasts. If core inflation strays from the target range of 0 - 3.5 per cent, the MPC will have to explain why the target was breached and what measures have to be taken, as well as the amount of time required, to bring inflation back within the range.

4.3 The Choice of Monetary Policy Instruments

Under the inflation targeting framework, the Bank of Thailand implements its monetary policy by influencing short-term money market rates via the selected key policy rate, currently set on the 14-day repurchase rate. The Monetary Policy Committee (MPC) signals shifts in monetary policy stance through announced changes in the key policy rate. The Bank of Thailand uses a variety of monetary policy instruments to implement MPC's interest rate decisions.

The operational framework of the Bank of Thailand's monetary operations consists of a set of instruments which can be classified into three categories.

4.3.1 Reserve Requirements

Commercial banks are required to maintain the required reserves on average over a fortnightly period (dates: 8th-22nd and 23rd-7th) with carry-over provisions using the previous period's average level of commercial banks' deposits/liabilities as the base.

The amount of reserves required to be held by each bank is determined as a percentage of its reserve base. The reserve base comprises deposits and short-term (less than 1 year) new foreign borrowings. Currently, the reserve requirements ratio is 6% and the reservable assets consist of (i) a minimum (1%) non-remunerated deposits at the Bank of Thailand, (ii) vault cash (up to 2.5%), and (iii) eligible public securities as residual.

The averaging provision means that compliance with reserve requirements is determined on the basis of the average of the end-of-day balances of the banks' reservable assets over a maintenance period. Such averaging arrangement helps to facilitate banks' own liquidity management and to reduce daily volatility in short-term interest rates.

The carry-over provision allows banks to fall short of their reserve requirements by up to 5% (of the requirements). They then have to make up their shortfalls in the next period. This carry-over provision works both ways. That is, banks can also count part of this period's excess reserves towards next period's requirements by up to 5% of the requirements. This helps reduce interest rate volatility on the last day of the reserve maintenance period.

4.3.2 Open Market Operations (OMOs)

In conducting open market operations, the Bank undertakes transactions in financial markets, in accordance with the Bank of Thailand Act, B.E. 2485, in order to affect the aggregate level of reserves balances (financial institutions' deposits at the Bank) available in the banking system, and therefore affects the short-term market interest rates. OMOs are the most actively used instrument to maintain the policy rate, while at the same time ensuring that there is sufficient liquidity in the banking system to meet banks' demand for reserves and settlement balances. The Bank employs four main types of open market operations:

(i) Repurchase Operations (RP)

The Bank uses repurchase and reverse repurchase transactions to temporarily add or drain reserves available to the banking system. Currently, the Bank conducts this operation both bilaterally with Primary Dealers and through the BOT-operated repurchase market.

(ii) Outright Purchase/Sale of Government Securities

To permanently add or drain reserves available to the banking system, the Bank buys or sells government securities outright with Outright Primary Dealers. The Bank usually adds rather than drains reserves through this channel to accommodate the permanent increase in currency in circulation as the economy grows. The scope for outright securities transactions by the Bank has greatly improved as the Thai bond market becomes more developed.

(iii) Issuance of Bank of Thailand Bonds

The Bank started reissuing Bank of Thailand Bonds in early 2003, with an aim to expand the range of instruments used in the implementation of monetary policy. This would enhance the flexibility and efficiency in managing money market liquidity and in conducting monetary operations.

The Bank of Thailand determines the total issue size and maturity distribution in accordance with the prevailing money market conditions, taking into account the issuance schedule of public sector debts. The monthly auction calendar is announced in advance on the Bank of Thailand website.

Bonds are issued through competitive multiple-priced auctions held on Tuesdays. Settlement takes place two days later on Thursdays. Eligible bidders comprise the same institutions as those eligible for the bidding of Treasury bills and Government bonds which are commercial banks, specialised financial institutions, finance companies, finance and securities companies, securities companies, Government Pension fund, Provident funds, Mutual funds, Social Security Office, Life and Non-life insurance companies, and other institutions which hold their current accounts at the Bank of Thailand.

Since 2003, only discount instruments with maturities of 12 months or less have been issued. As of end December 2004, there are 6,763 million US dollar of BOT bonds outstanding.

(iv) Foreign Exchange Swaps

The foreign exchange swap is another instrument the Bank of Thailand uses to influence liquidity conditions in the money market. It supplements other market operations in domestic securities quite well especially when domestic securities are scarce. The FX swap is similar to a repurchase agreement in domestic securities, the difference being that the Thai baht is exchanged for foreign currency, namely the US dollar, rather than domestic securities.

4.3.3 Standing Facilities

The Bank provides a collateralised standing overnight credit facility called the "End-of-Day Liquidity Window". This allows financial institutions with insufficient liquidity at the end of the day to pledge collateral to obtain liquidity from the Bank. Eligible financial institutions are commercial banks, finance companies, finance and securities companies, and specialised financial institutions. There is no restriction on the amount that each institution can borrow. However, this is implicitly capped by the amount of each institution's eligible collateral.

4.4 Benchmark Yield Curve

The Government Bond Yield Curve is developed by using bidding yields quoted daily by 10 primary dealers at minimum value of THB 20 million. Additionally, Thai BDC publishes reference yields of state owned enterprise (SOE) bonds, FIDF bonds and treasury bills. The yield curve information is disseminated to the public on a daily basis since 1999.

In addition to the yield curve, Thai BDC has also developed the Bond index to be a tool to track market performance. They comprise of the Total Government Bond Index and Categorised Index which is divided into by 4 subgroup by maturity i.e. 1-3 years, 3-7 years, 7-10 years and over 10 years. There is also an Investment Grade Corporate Bond Index, which has served as a better benchmark for tracking and comparing corporate bond performance.

There is now a regular issuance and trading of government securities, thus providing the market with an efficient and reliable benchmark yield curve.

4.5 Views on Assets Backed Securities

Securitisation, including issuance of asset-backed securities, has been officially promoted since 1997 when the Emergency Decree on Special Purpose Vehicle for Securitization, B.E. 2540, ushered a fresh alternative for seeking and obtaining the working capital of business enterprises through special purpose vehicles (SPVs) and the provision of the protection for investors, in the event of such business/ enterprises and/or the special purpose vehicles becoming insolvent or adjudged bankrupt. Additionally, major tax barriers regarding the securitisation process, such as corporate income tax of the Special Purpose Vehicle, have been waived.

Since the Emergency Decree mentioned above has legalised the securitisation transaction, the related legal risk is minimised. However, operational risk remains a concern. To reduce operational risk and to ensure that the SPVs perform their duties in accordance with the law, the SEC requires SPVs to submit a plan of their securitisation project, which provides details such as securitised assets and the project manager, for its approval, prior to a securitisation transaction.

5. Challenges and Strategies to Develop Well-functioning Bond Market

5.1 Factors Hindering Bond Market Development

1. The small size of the markets – and the resultant low liquidity- provided little incentive for active participation by both issuers and investors. On the supply side, a small market limits the feasible range of marketable instruments and their effective tradability. On the demand side, a small number of market players and the dominance of a few players hindered competition and market liquidity.

2. The limited ability of government to issue bonds in the maturity and amount accordance to the market needs

5.2 Measures and Strategies for Developing Bond Market

5.2.1 Past Efforts and Recent Initiatives

(i) An Appropriate Bond Market Structure Model

There have been thoughts that the trading platform operator, the market information centre, the clearing and settlement operator, and the SRO should be in the same organisation, to enhance efficiency since the flow of information from one function could be beneficial, and sometimes even essential, for another function to perform well. The Stock Exchange of Thailand, currently the equity market centre, may be restructured to be the centre for both equity and bond markets, taking care of all the above functions.

(ii) New Debt Management Law and Regular Issuance in Primary Market

The enactment of the new Debt Management Law will facilitate greater debt management flexibility. However, it will allow the government to issue bonds only to finance budget deficit and to refinance their debt. Therefore if the government enjoys fiscal surplus, they will have a limitation to issue regular and substantial amount of government bonds. The resultant limited supply of government bonds will inhibit the development of a risk-free benchmark for the market and for private issuers to price their corporate bonds. The regular and substantial supply of government bonds will also enhance the liquidity in the secondary market as well as support the development of the government bond futures market The regular and substantial issuance of the government bonds is the prerequisite for the well-functioning and liquid bond market.

(iii) The Establishment of the Bond Futures Market

The derivatives market in Thailand consists of products mostly traded in the over the counter (OTC) market. The exchange traded derivatives market has not existed to date. During May 2003, the Derivatives Bill was passed in Parliament and was enacted in January 2004. The Stock Exchange of Thailand is expected to launch the SET index futures as the first product. Cash settled

interest rate derivatives contract (Government bond futures contract) will be next.

There are also concerns that the market will be 'one way' and therefore will not generate liquidity. The encouragement of universal players should not only include the global institutions, but also 'risk takers' or individual traders who run a trading book based on speculation and trading at the margin. The exchanges in the USA and Australia acknowledge that this special type of trader has contributed to the liquidity of their futures markets. Market making is another feature required of futures markets in fostering liquidity.

(iv) Development of Private Repo Market

The development of a private repurchase market is also an important step in improving market infrastructure. The private repo market could provide a link between money market and bond market. The private repo is also a tool for market participants to hedge their position and manage liquidity (both bond and cash position) more effectively. The liquidity in the secondary bond market will be substantially improved once the well-functioning private market is put in place.

The BOT has tried to encourage the establishment of a private repo market so that financial institutions can have access to short term funds or have an avenue for short term investment in place of the current BOT repo market. This will enable the BOT to gradually phase out of the current distorted market and change the role of this window for purely monetary operations to absorb or inject market liquidity.

The Bank of Thailand, in collaboration with other involved parties (the TBDC, related market participants), is encouraging the signing of the master repurchase agreement among market participants.

5.2.2 Measures to Further Develop the Market

In late 2004, the authorities together with all stakeholders have agreed to come up with 2 development attempts in the bond market in the following 2 years, as follows:

1. Intensifying the role of bond market to be a major intermediating channel in the Thai financial system.
2. Promoting the Thai bond market to be a desirable funding source for both Thai and foreign businesses.

In order to achieve the above tasks, the Bank of Thailand has planned to accomplish, the developments in the particular areas below in 2005:

1. The private repurchase market: broadening the market, encouraging more GMRA signing and facilitating transaction execution and back office work flows
2. The primary dealer system reformations, particularly in the privileges and obligations issues
3. The secondary market participants and liquidity broadening
4. The development of derivatives market, both on the exchange and OTC.
5. The clearing and settlement system efficiency enhancement
6. The development of Asian Bond Fund 2

6. Conclusion

Although bond market development in Thailand stemmed from the crisis, there have also been many positive aspects that make a well functioning bond market desirable. The Thai economy will become more resilient to economic disturbances, as the financial system had been reliant on several means of financing. The allocation of financial resources will be more efficient as investors and borrowers would be searching for the best possible alternative to invest and raise their funds. The Government would have a certain and cheap funding source for their budget deficit, and thus encouraging it to focus more on development projects. Last but not least, the central bank would be able to transmit its interest rate signals more rapidly through a well functioning bond market. Since 1997, the Thai bond market has experienced dramatic growth both in terms of infrastructure and size. Going forward, we will have to move on with more difficult and complex solution solving tasks. Coordination and a well working mechanism among stakeholders, both in the domestic and regional levels, could be the key success factors.

I. Data in the forms of table/chart for the period 1996 up to 2003 or the latest available figure on :

Table 1: Data on Total Outstanding Debt Securities

	1996	1997	1998	1999	2000	2001	2002	2003
Government Bonds	0.71	0.44	10.32	15.52	16.40	15.88	25.92	27.26
T-Bills	-	-	-	0.66	1.54	2.47	3.12	3.06
State enterprise Bonds	10.99	9.37	7.27	9.42	10.18	9.35	9.20	9.93
- Guaranteed	9.46	7.88	6.18	8.17	8.60	8.03	7.99	7.88
- Non-guaranteed	1.53	1.48	1.09	1.25	1.58	1.32	1.21	2.04
BOT/FIDF Bonds	1.60	1.64	0.88	0.48	0.10	2.52	2.61	5.76
Corporate Bonds	7.20	5.98	4.29	10.62	12.48	12.10	12.64	14.62
Total	20.49	17.43	22.75	36.70	40.71	42.33	53.49	60.63
As a percent of GDP (current price)	11.26	11.55	20.35	29.95	33.21	36.68	42.19	42.40

Figure 1

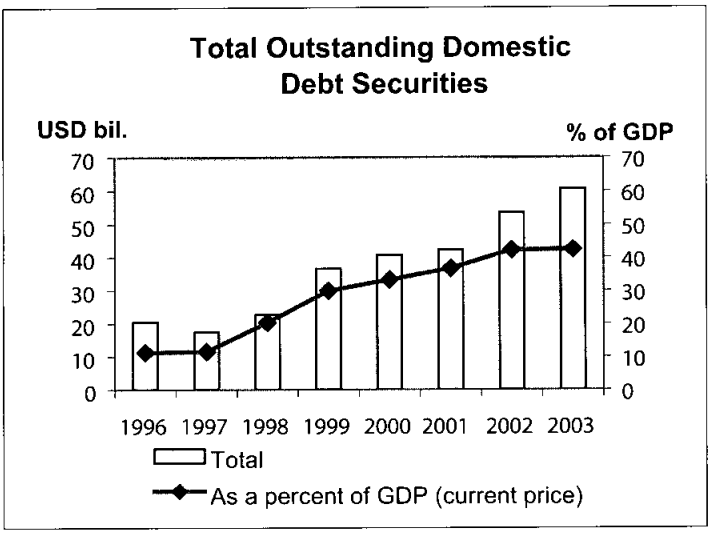


Table 2: Distribution of Outstanding Domestic Bond by Holders or Investor Base

USD mil.

	1996	1997	1998	1999	2000	2001	2002	2003
Government Bonds	**712**	**438**	**9,957**	**16,183**	**17,952**	**18,293**	**29,044**	**29,239**
Bank of Thailand	99	114	1,445	2,351	2,009	2,538	2,196	2,209
FIDF	-	-	1,935	-	-	-	-	-
Commercial Banks	397	241	3,727	6,738	7,584	6,941	8,685	6,479
Financial Institutions	156	50	2,140	4,160	3,826	2,703	3,142	3,109
Insurance Companies	25	15	185	866	1,290	1,730	3,075	4,397
Other	36	19	525	2,070	3,242	4,381	11,946	13,046
State Enterprise Bonds	**10,985**	**9,381**	**7,278**	**9,310**	**9,918**	**9,115**	**8,862**	**9,287**
Bank of Thailand	714	2,284	1,815	1,696	1,206	751	534	357
FIDF	-	-	-	-	-	-	-	-
Commercial banks	5,830	4,125	3,101	4,216	3,546	3,322	3,368	3,450
Financial institutions	3,760	1,960	755	1,388	2,354	2,313	2,138	2,376
Insurance companies	257	466	565	778	1,045	1,120	1,111	1,191
Other	423	545	1,042	1,232	1,766	1,609	1,712	1,913

Table 3: Distribution of Outstanding Domestic Bond by Major Issuers

USD bil.

	1996	1997	1998	1999	2000	2001	2002	2003	2004 (Oct)
Total Government Bonds	0.71	0.44	10.32	16.18	17.95	18.35	29.04	30.32	36.72
State enterprise Bonds	10.99	9.37	7.27	9.42	10.18	9.35	9.20	9.93	10.53
BOT/FIDF Bonds	1.60	1.64	0.88	0.48	0.10	2.52	2.61	5.76	7.04
Corporate Bonds	7.20	5.98	4.29	10.62	12.48	12.10	12.64	14.62	13.62
Total	**20.49**	**17.43**	**22.75**	**36.70**	**40.71**	**42.33**	**53.49**	**60.63**	**67.90**

Figure 2

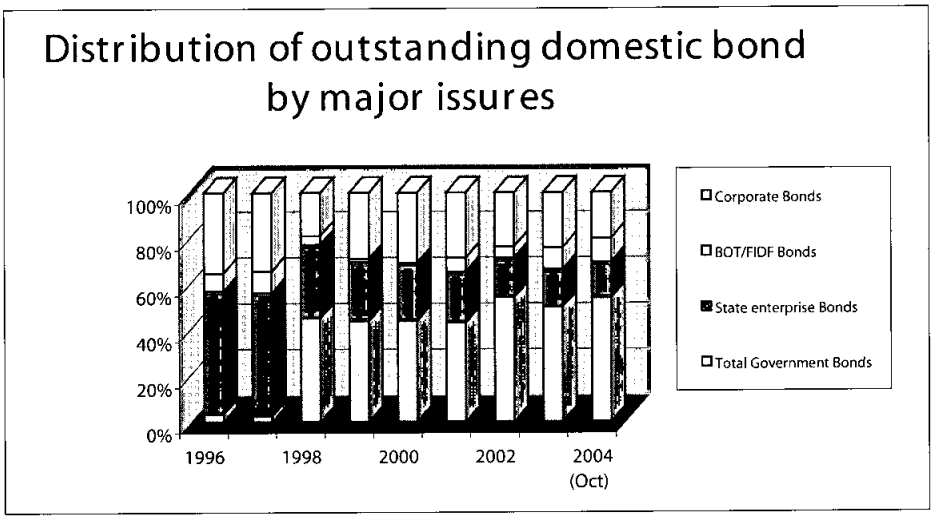
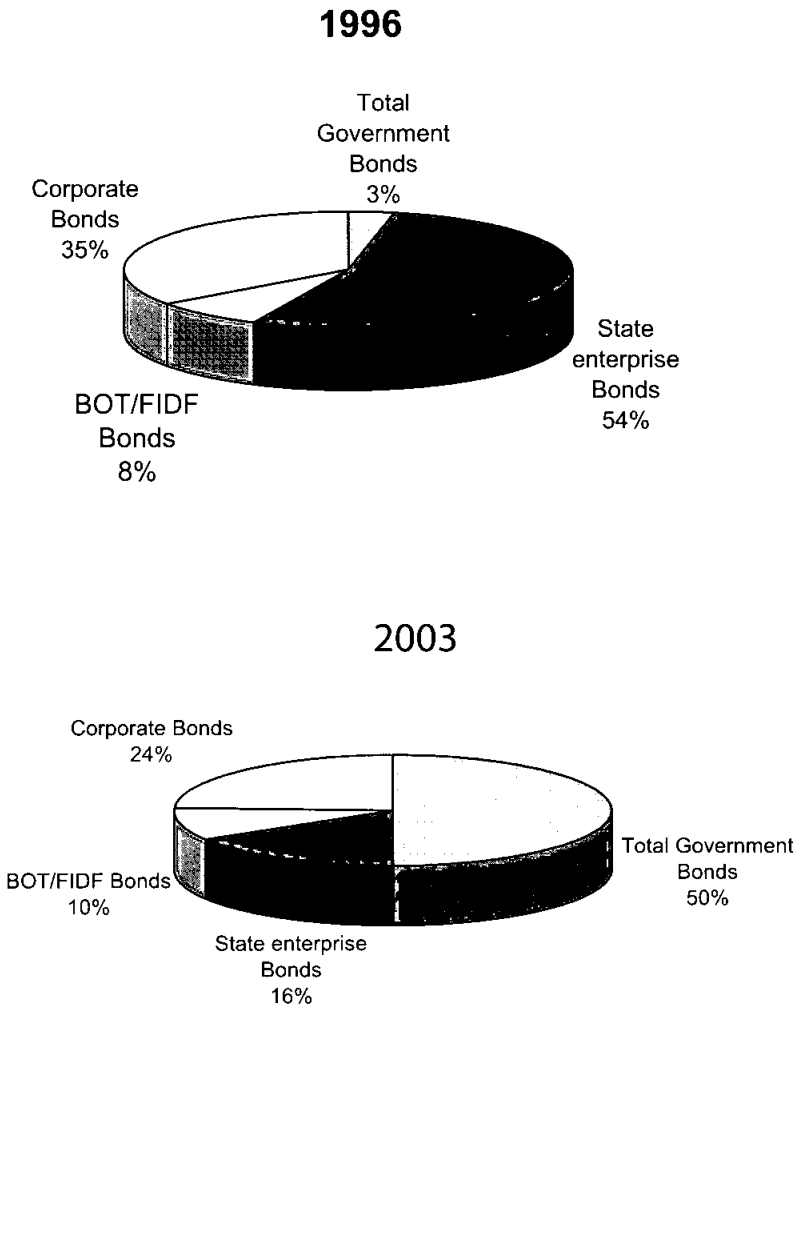
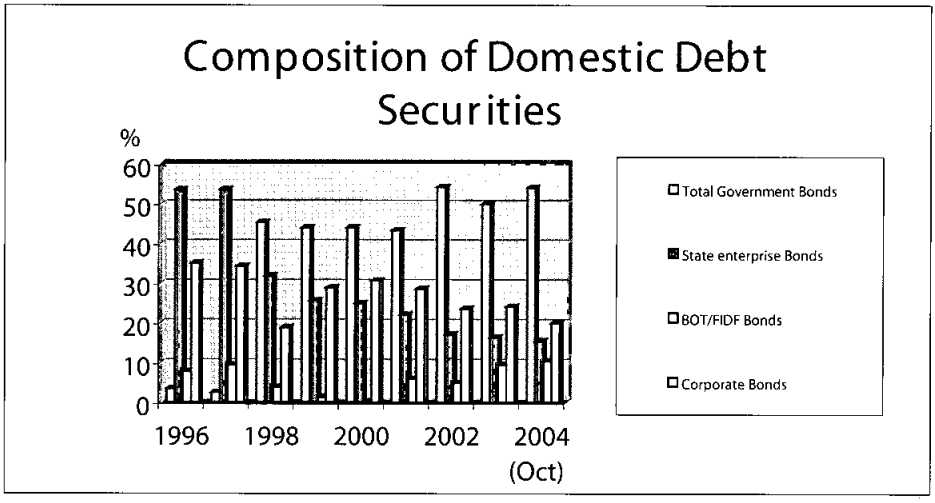


Table 4: Data on Secondary Market Liquidity

	1996	1997	1998	1999	2000	2001	2002	2003
Annual Trading Value (USD mil.)	7,916.64	3,385.08	1,742.76	11,395.27	33,792.86	35,796.30	49,884.65	62,765.23
Turnover	1.35	0.63	0.09	0.40	1.07	1.06	1.30	1.38

Figure 3: Composition of Domestic Debt Securities





II. Data in the forms of table/chart as at 2003 or the latest figures available on :

Table 5: Data on Financial Sector Profile/Financial Market Summary

	2003
Bank Loans [1/]	113.21
Equities (SET mkt. cap)	115.34
Domestic Bond (at par)	60.63

Figure 4

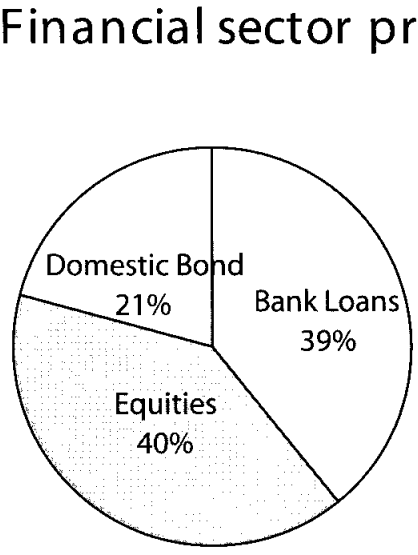


Table 6: Distribution of Outstanding Domestic Bond by Maturity Structure

Maturity Structure of the Government Sector as of Nov. 2004 (in million of US $)					
Issuers	**TTM< 1 yr**	**1<=TTM < 5 yrs**	**5 <=TTM < 10 yrs**	**TTM > = 10 yrs**	**Total**
Government (Bonds and Bills)	6626	8323	12360	4544	31853
(%)	14	18	26	10	67
State Agencies and State owned Enterprises	7372	5422	2347	238	15379
(%)	16	11	5	1	3
Total	13998	13745	14707	4781	47232
(%)	30	29	31	10	100