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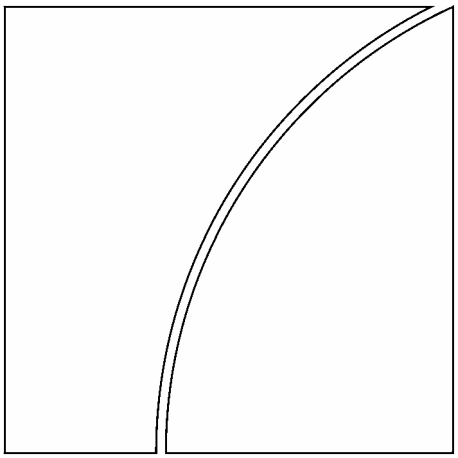

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Developing corporate bond markets in Asia

Proceedings of a BIS/PBC seminar held in Kunming, China on 17-18 November 2005

Monetary and Economic Department

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Foreword

The idea for a seminar on developing corporate bond markets in Asia was first broached in June 2005, when Governor Zhou Xiaochuan of the People's Bank of China (PBC) invited 12 major central banks in Asia and the Pacific to participate in a high-level seminar on financial markets. During the subsequent consultation between the PBC and the Bank for International Settlements (BIS), it was recognised that there had been numerous seminars on financial markets in Asia in general, including on developing local currency bond markets. But these seminars had neglected one issue that cried out for the attention of emerging market central banks: the development of the non-government segment of the local currency bond markets. While much progress had already been made in developing the local *government* bond markets, it was clear that the *corporate* bond markets in much of Asia remained behind their government bond counterparts, especially in terms of market liquidity. Hence, Governor Zhou's proposed topic was widely welcomed by the prospective participants in the seminar. He then asked the BIS Representative Office for Asia and the Pacific to help organise the seminar.

Thirty participants including high-level officials from central banks in Asia and the Pacific, the European Central Bank and the BIS took part in the seminar. Among them were Governor Zhou of the PBC, Joseph Yam of the Hong Kong Monetary Authority and Malcolm D Knight of the BIS. The participants also included a few academics, regulators and market participants.

To prepare for this BIS/PBC seminar, the central bank participants were asked to provide background papers to describe their local currency corporate bond markets and identify important policy issues. The academics and other participants were asked to focus on particular issues. For the seminar itself, these issues were grouped around five themes: (1) why a corporate bond market? (2) legal and institutional framework; (3) role of information; (4) market liquidity; and (5) the role of central banks in market development. This volume makes available revised versions of all these papers.

Participants in the Seminar on Developing Corporate Bond Markets in Asia
Kunming, China, 17-18 November 2005

Central banks and monetary authorities

Australia	Reserve Bank of Australia **Ric Battellino** Assistant Governor (Financial Markets) **Mark Chambers** Senior Manager, Securities Markets Section Domestic Markets Department
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European Union	European Central Bank **Erwin Nierop** Deputy General Counsel, Head of the Financial Law Division, Directorate General Legal Services
Hong Kong SAR	Hong Kong Monetary Authority **Joseph Yam** Chief Executive **Julia Leung** Executive Director, External Department **Kitty Lai** Head, External Division **Sunny Yung** Administrative Assistant to the Chief Executive
India	Reserve Bank of India **V K Sharma** Executive Director **Chandan Sinha** Chief General Manager, Financial Markets Department
Japan	Bank of Japan **Hideaki Ono** Adviser to the Governor, Financial Markets Department

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	Soo-Ho Kim Director General, Financial Markets Department
	Myong-Jong Lee Associate Director, Fixed Income Market Team Financial Markets Department
Malaysia	Central Bank of Malaysia
	Muhammad bin Ibrahim Assistant Governor
	Adrian Wong Senior Executive, Investment Operations & Financial Markets Department
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	Thomas Keller Group Managing Director
Japan	Morgan Stanley Japan Limited
	Robert Breden Managing Director, Co-head of Corporate Credit Group

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Marvin Goodfriend
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United States — Columbia University, New York
Suresh Sundaresan
Chase Manhattan Bank Professor of Finance and Economics

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Amy K Edwards
Financial Economist, Office of Economic Analysis

Bank for International Settlements — **Malcolm D Knight**
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Eli Remolona
Deputy Chief Representative

Jean-Pierre Matt
Head of Regional Treasury

Guonan MA
Senior Economist

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Developing corporate bond markets in Asia: a synopsis of the Kunming discussions

Guonan Ma, Eli Remolona and He Jianxiong[1]

Overview

On 17-18 November 2005, high-level representatives from 11 central banks in Asia and the Pacific and from the European Central Bank (ECB) met in Kunming, China. They met to share their experience in developing local currency corporate bond markets at a seminar organised jointly by the Asian Office of the Bank for International Settlements (BIS) and the People's Bank of China (PBC). The topic was a timely one that generated lively and candid discussions.

To keep the seminar small and informal, only a few selected academics and market participants were invited to join the central bank representatives. Among the participants were PBC Governor Zhou Xiaochuan and BIS General Manager Malcolm D Knight, who delivered keynote speeches. Joseph Yam, Chief Executive of the Hong Kong Monetary Authority, set the stage for an active exchange of views by chairing the first session. The academics included Suresh Sundaresan of Columbia University and Marvin Goodfriend of Carnegie Mellon University.

The seminar was structured around five themes: 1) Why a corporate bond market? Growth and direct debt finance; 2) Legal and institutional frameworks: rules of the game; 3) Role of information: disclosure, rating agencies and benchmarks; 4) Market liquidity: microstructure and transparency; and 5) Central banks and corporate bond market development. One session was devoted to each of these themes, with lead presentations introducing the theme and raising issues for discussion. Participants contributed to discussions by drawing on the experience of their home markets.

Why a corporate bond market? Growth and direct debt finance

Marvin Goodfriend of Carnegie Mellon University highlighted the importance of direct debt finance in the course of a country's economic development. Initially, firms rely on internally generated funds or funds borrowed from an extended family of firms. As the economy develops, firms need to secure external funding, first in the form of "information-intensive" indirect financing, ie loans extended by banks. From there, the bigger firms in good standing seek funding in the form of direct finance from the corporate debt and equity markets. At that point, though, banks continue to provide value-added services, while investment banks assist in the various forms of direct finance. Accordingly, multiple financing channels improve firms' capital structures, promote competition and encourage innovation. Professor Goodfriend also highlighted the role of bond finance in mitigating the problem of creditor runs, which are an inherent feature of short-term credit markets. In particular, he talked about the importance of the "spare tyre" offered by a functioning corporate bond market, especially for the resilience of a financial system to shocks.

Muhammad bin Ibrahim of Bank Negara Malaysia observed that the Malaysian financial system has its own very large "spare tyre". Indeed, the ringgit corporate bond market - what Malaysians call the "private debt securities" (PDS) market - is now larger than the local government bond market. The PDS market currently accounts for over 80% of funds raised domestically, compared with less than

[1] Guonan Ma is a Senior Economist at the BIS Representative Office for Asia and the Pacific; Eli Remolona is the Deputy Chief Representative of the BIS Representative Office for Asia and the Pacific; He Jianxiong is Deputy Director-General of the International Department, the PBC.

half in 1997. In recent years, this market has been dominated by issuers from the infrastructure, construction and utility sectors. One of the fastest-growing segments of the market is the Islamic debt market, which now accounts for almost one-third of the PDS market. The maturities of Malaysian PDS issues range from one to 28 years, matching the needs of different issuers, but their relatively small issuance sizes may have contributed in some degree to market illiquidity.

Chandan Sinha of the Reserve Bank of India underscored the need and potential for developing India's corporate bond market. He emphasised five factors: 1) the existing bias of household financial savings towards bank deposits and government paper; 2) the dominant role of government bonds in the local debt market; 3) the heavy reliance of the corporate sector on bank borrowing; 4) the predominance of private placements over public offerings; and 5) an illiquid secondary market. In connection with this, Mr Sinha outlined the main obstacles to development of the Indian corporate bond market. First and foremost, there is a lack of market infrastructure and there are too few institutional investors on the demand side and too few quality issuers on the supply side. He enumerated some of the pre-conditions for further market development, including efficient government bond and money markets, a sound legal framework and the availability of hedging instruments. He suggested that enhanced transparency could lead to a big retail market for bonds.

Chuan Teck Lee of the Monetary Authority of Singapore illustrated how a robust corporate bond market can add to the depth of the capital market, even in a small economy. He outlined the measures taken thus far by Singaporean authorities to develop the market for both local currency and foreign-denominated issues. Between 1997 and 2004, the size of the Singapore corporate debt market expanded four-fold, with the result that the value of corporate securities outstanding is now about twice that of bank loans. The initiatives taken by the authorities to further develop the local bond market had three key objectives: 1) building a liquid government benchmark yield curve; 2) fostering the growth of an active secondary market, both for cash transactions and derivatives; and 3) encouraging issuers and investors, both domestic and international, to participate in the Singapore bond market. The Singapore case is interesting in that despite the small size of its economy, the authorities have made an effort to attract non-resident issuers in both local and foreign currencies as a way to enhance the size and depth of the corporate bond market.

Robert Breden of Morgan Stanley expressed his view as a market player on the role of the corporate bond market in broader financial market development. A public corporate bond market is important in fostering a credit culture, market discipline and observable benchmarks for issuers, bond investors and other providers of capital. It also offers access to longer-dated, unsecured financing for growth businesses. In addition, primary and secondary corporate bond spreads can be used by banks to assess mark-to-market (MTM) loan positions. However, Mr Breden noted that the current high liquidity and capitalisation of banks in Asia is pre-empting corporate bond markets, as firms have limited incentive to tap capital markets when banks are willing to lend at low spreads. He concluded by saying that savings rates and demographics in Asia could result in rapid growth in institutional money management, as well as greater participation by life insurance and pension plans. Effective asset management for these plans will require a balance of asset alternatives - and the currently underdeveloped corporate bond markets will lead to an overweight position in equities, government bonds and structured notes.

Legal and institutional frameworks: rules of the game

What bankruptcy and insolvency rules are conducive to a well-functioning credit market and one that balances creditor and debtor rights? Suresh Sundaresan of Columbia University responded to this question by offering three guiding principles. First, the bankruptcy code should deliver efficient ex post outcomes in the sense that the total value of the claims (both equity and debt) in distress is maximised. Second, the code should make clear, ex ante, the penalty for not honouring contractual obligations by ensuring credible access to borrowers' assets. Finally, it should provide incentives for solvent but illiquid corporate borrowers to reorganise. Professor Sundaresan noted that bank loans tend to be secured and senior, and to be owed to only a few banks and therefore easier to coordinate and re-contract in times of distress. By comparison, there are typically myriad corporate bond investors for the same issuer, making debt negotiations in times of distress more complex. He then discussed a number of market mechanisms that can be used in resolving financial distress.

Erwin Nierop of the ECB described the European experience of developing corporate bond markets after the introduction of the euro. The establishment of the ECB and the single currency contributed to market development by fostering financial market integration through reduction of issuance costs and currency risks, and the expansion of market size and investor base. However, Mr Nierop pointed out that the euro area still has to contend with 12 effectively distinct financial markets under one currency and one monetary authority - with 12 regulators and legal jurisdictions. More generally, there are 25 separate capital markets within the European Union (EU). Such legal and regulatory fragmentation has limited the gains from market integration. He then reviewed the substantial recent or ongoing efforts and initiatives on the part of the EU and ECB level to harmonise 1) payment systems and other market infrastructures; 2) legislation; 3) regulations; 4) guidelines; 5) collateral policy; and 6) measures to promote financial stability.

Myong-Jong Lee of the Bank of Korea questioned the usefulness of bank guarantees in reducing and pricing credit risks in corporate bond markets. In Korea, the share of issuance of listed corporate bonds guaranteed by banks and other non-bank financial institutions in total issuance fell from 85% in 1997 to less than 1% in 2004. Mr Lee offered three explanations for this sharp decline in the role of guarantees. First, many Korean commercial and merchant banks came under considerable pressure during the Asian crisis, facing tough restructuring challenges in meeting their capital adequacy requirements - which made them extremely reluctant to provide guarantees for corporate bonds. Second, in face of a severe contraction in bank credit, the struggling Korean corporate sector was forced to raise funds from the bond market, even without bank guarantees. Finally, as the financial crisis subsided, domestic interest rates fell, which caused a huge inflow of funds into local investment and trust companies (ITCs), which, in turn, invested heavily in the Korean corporate bond market. Such inflows of funds into the ITCs almost trebled between 1997 and 1999. Mr Lee highlighted that one important ramification of this development has been that corporate bonds in Korea now tend to genuinely reflect underlying corporate credit risk rather than the credit risk of banks, which had been perceived to be implicitly backed by the government.

Mu Huaipeng of the PBC reviewed the challenges of regulatory fragmentation for corporate bond market development in China. There are still two separate bond markets in China: the interbank bond market regulated by the PBC and the securities exchange market regulated by the China Securities Regulatory Commission. Although some 40% of the government bonds are issued and traded in both markets (cross-market issues), other government bonds and most corporate bonds are traded only in one, but not the other (non-cross market issues). These two bond markets have rather different market microstructures, investor bases and custody and clearing systems, making it difficult for investors to arbitrage between them. As if two regulators were not enough, the allocation of quotas for corporate bond issuance is under a third government agency, the National Development and Reform Commission. Mr Mu made the further point that although different markets may meet the diverse needs of different investors and issuers, there should be less segmentation in investors, issuers, fund flows and custodian services between the two bond markets. He then explored a number of policy measures to develop a more unified bond market in China, including the adoption of a multi-layer OTC market microstructure, strengthened market discipline (by enhancing the role of credit rating agencies) and increased information disclosure.

In connection with this, the Malaysian experience showed how reduction in regulatory impediments and enhanced coordination can boost the corporate bond market. With the creation of the National Bond Market Committee, comprised of several agencies and regulators to consolidate regulatory responsibility under one umbrella, the approval process for corporate issuance has been reduced from 9-12 months to no more than 14 days. The size of Malaysia’s corporate bond market surged 124 times from 1989 to 2004, and is now approaching 40% of GDP.

Robert Breden commented on the roles of credit derivatives, the Basel II framework and new accounting standards. He suggested that while credit default swap (CDS) markets are now important for corporate bond and loan markets, corporate bond markets will also be critical to the development of credit derivative markets. The Basel II capital treatment will encourage banks to seek credit derivatives to hedge excess exposure to certain credits, and may reduce crowding out in BB-rated credits. Mr Breden argued further that sensible accounting policy, particularly for insurance companies, can help develop a term structure in bond markets. In jurisdictions where there is a mismatch between MTM accounting of assets and policy liabilities, distortions will occur if long-dated liabilities are not marked to market while assets are. Insurance companies will then have a strong incentive to invest in shorter asset maturities, rather than matching their liability streams. In Japan, there was a change in accounting rules that allowed assets to be matched against liabilities, and

exempted this package from MTM accounting. This measure has been instrumental in creating capital market activity in long-term agency, municipal and corporate bonds.

Role of information: disclosure, rating agencies and benchmarks

Mr Lee of the Bank of Korea described the Korean experience in MTM accounting standards and explored the ramifications for the bond market and the local fund management industry. Korea has imposed MTM accounting on bond funds managed by investment trust companies (ITCs) and on trust accounts held at banks, in phases since late 1998. One motivation for the MTM requirement was that the book value method tended to exacerbate the volatility in fund flows in and out of the ITCs, especially during the Asian crisis and during the Daewoo collapse in 1999. Indeed, this volatility was considered to be a major cause of the observed ITC booms and busts over the years. Mr Lee also argued that MTM accounting tends to promote transparency and enhance market liquidity, since investors are better informed about the fair value of the bonds, and have a greater incentive to trade than hold and avoid realising losses. However, practical problems plagued the implementation of the MTM standards, especially with regard to the valuation of illiquid corporate bonds. Korea has now turned to two private pricing agencies that provide bond valuations based on matrix pricing.

Thomas Keller of Moody's Investors Service discussed the role of credit rating agencies in developing corporate bond markets. Based on information provided by issuers and the rating agencies' vast experience in assessing credit risk, these agencies are able to provide opinions on the likelihood that an issuer will meet its obligations. Mr Keller asserted that such opinions often play a role similar to that of a public good, in the sense that they are available publicly and broadly communicated to investors, thus helping to mitigate information asymmetry. It is important to note, though, that current or potential bond issuers pay for rating services, which means that in addition to their strong analytical capability, rating agencies must maintain a high degree of independence and objectivity to avoid conflicts of interest.

Eli Remolona of the BIS Asian Office returned to a question posed by Mr Lee of the Bank of Korea: How do we tell whether market prices reflect good information? Market information about creditors may arrive in various forms: earnings reports, profit warnings, financial press reports and credit analysis by securities houses. Rating agencies help summarise such information and do so in several ways, namely, through rating announcements, outlooks and reviews. While rating announcements tend to be the most deliberate, and, therefore, slowest, rating reviews are typically the most timely, usually signalling rating decisions within the next 90 days. Mr Remolona shared the results of a study on the impact of these announcements on the CDS market. The results suggest that CDS contracts are as liquid as equity in reacting quickly to new information. Reviews by credit agencies generated the strongest reactions in both the CDS and equity markets, followed by outlooks and rating announcements. Moreover, these information releases seem to have a greater impact on credits at the lower end of the investment grade spectrum, reflecting the rules many institutional investors face against investing in speculative grade issues.

Market liquidity: microstructure and transparency

Professor Sundaresan reviewed issues related to the microstructure of fixed income markets in general and the transparency of the corporate bond market in particular. In contrast to government bond markets, corporate bond markets accommodate many issuers, smaller issue sizes and non-standard contractual terms. Therefore, corporate bond markets tend to be less liquid than government securities markets, and institutional investors tend to dominate in the corporate bond markets. Moreover, highly rated firms typically differentiate themselves from others in terms of primary and secondary arrangements, resulting in different levels of market transparency. For instance, high-quality short-term commercial paper normally requires lower information production than high-yield bonds. In the primary market, underwriting procedures, targeted investor bases and disclosure requirements differ between public bond issues and unregistered issues. As for the secondary market, the main questions concern what the appropriate standards for pre-trade and post-trade transparency are, and what arrangements for collateralised lending should be adopted.

Nestor Espenilla of the Bangko Sentral ng Pilipinas focused on the Philippine experience of market microstructure and transparency. He emphasised the importance of transparency for market discipline, investor confidence and market liquidity. Until recently, the Philippine debt market had been plagued by fragmentation, inefficient price discovery and lack of transparency. He discussed the efforts to establish the Philippine Fixed Income Exchange as an integrated electronic trading platform for debt securities trading and settlement. This new integrated infrastructure is intended to promote market transparency, efficiency, liquidity and reliability, and is designed to cover all debt securities and accommodate different market microstructures. It will be a centralised market with exchange participation rights, freedom of investors to choose brokers, transparent pricing and a securities lending programme. Mr Espenilla also raised the question of how realistic it is to expect multiple market-makers to provide liquidity in corporate bonds and whether dealers should be required to reveal information on transactions. Finally, he raised the question of whether there is an advantage in having a regional clearing system.

Amy Edwards of the US Securities and Exchange Commission examined issues surrounding post-trade transparency, especially in light of the US experience of its Trade Reporting and Compliance Engine (TRACE) system. Introduced in 2003, TRACE requires that OTC trades in corporate bonds be reported within 15 minutes of the transaction. Since then, market liquidity has improved considerably, and her own research shows that such transparency lowers transaction costs dramatically. More generally, post-trade transparency benefits investors and helps regulators with their market oversight responsibilities. Ms Edwards noted, however, that it is important to keep in mind that requiring transparency does not mean imposing a particular market microstructure.

Pongpen Ruengvirayudh of the Bank of Thailand talked about the Thai experience with regard to information disclosure and transparency in the Bangkok secondary bond market. The Thai bond market has expanded considerably since the Asian crisis, with the total amount of bonds outstanding rising from 4% of GDP in 1997 to 42% in 2004. Nevertheless, government bonds still dominate the market and fragmented settlement systems impede its development. Additional constraints facing the Thai corporate bond market include a lack of quality issuers and inadequate market infrastructure. The market has two main trading platforms: the auto-matching Bond Electronic Exchange and the OTC market. An electronic trading platform designed to accommodate different trading structures will be introduced in 2006. The new system is expected to overcome some of the market impediments. A more reliable benchmark government bond yield curve is also expected to promote corporate bond market development.

The question of how important other fixed income markets and foreign exchange markets are for the efficient functioning of corporate credit markets was the focus of a presentation by Ric Battelino of the Reserve Bank of Australia. He drew three lessons from the Australian experience. First, the easiest way to develop fixed income markets is to start with the government bond market, since it is more liquid and conducive to infrastructure development and can provide a benchmark yield curve for the broader credit market. Second, once broadly based credit markets have developed, it is possible to scale back the government bond market without doing much damage to the markets generally, a possibility demonstrated by Australia during its recent episode of large fiscal surpluses. Third, it is important to have a free and open foreign exchange market, and preferably a floating exchange rate. The key considerations here are that a deep currency swap market encourages foreign issuers to tap, and foreign investors to invest in, the domestic market, while it allows domestic issuers to tap the overseas market and domestic investors to hedge their overseas investments. For a relatively small economy like Australia, a deep currency swap market is of even greater importance.

Central banks and corporate bond market development

To set the stage for discussing the role of central banks, Hibiki Ichiue of the Bank of Japan (BoJ) surveyed the broader Japanese credit market, including the local corporate bond market, the Samurai bond market, syndicated loans, securitisation and credit derivatives. Bank loans still dominate Japan's credit market, but the corporate bond market expanded during the financial crisis. Mr Ichiue suggested that local and international credit agencies, as well as paperless bonds to be introduced in 2006, will promote corporate bond market development. One key factor influencing the credit market in Japan is the significant savings surplus, which has kept credit spreads rather narrow, with the result that the corporate bond market is dominated by domestic investors. The Samurai bond market and cross-

border syndicated loans have allowed Japanese investors to gain exposure to overseas credit risk. Corporate bond issuance has levelled off in recent years, while loan syndication has more than trebled between 2000 and 2005. The BoJ has played a pivotal role in developing the loan syndication market, by publishing statistics, accepting syndicated loans as collateral in its open market operations and assisting self-regulatory organisations in designing standardised contracts. The securitisation market has also expanded considerably in recent years, driven mainly by mortgage-backed securities. Issuance of other types of asset-backed securities and commercial paper has also grown, with half of the underlying asset portfolios comprised of bank loans to small and medium-sized companies. Again, the BoJ has contributed actively to such developments through seminars, facilitating standardised information disclosure, market surveys and dissemination of statistics.

Julia Leung of the Hong Kong Monetary Authority focused on the experience of central bank cooperation in setting up the Asian Bond Fund II (ABF2), and in its subsequent development. She identified five main challenges to Asian bond market development: 1) low investor participation; 2) poor liquidity; 3) lack of price transparency; 4) low credit ratings; and 5) high taxes. ABF2 was intended to confront such challenges and improve market infrastructure. The nine funds of the ABF2 family feature low entry thresholds and the low transaction costs associated with passive index tracking. The funds also enjoy high transparency and diversified exposures, and should appeal to a broad investor base. In particular, the Hong Kong Index Fund has expanded by more than 40% since its listing in July 2005. ABF2 also helps improve liquidity by introducing market-making mechanisms. On the other hand, ABF2 is not rated, thus potentially deterring some investors. Ms Leung raised three important questions: whether market-making can be instituted for corporate bonds; whether listing can improve transparency; and whether there are ways to overcome the relatively low credit ratings of Asian issuers. She suggested that much more can be done to further promote regional cooperation in bond market development.

Simon Tyler of the Reserve Bank of New Zealand addressed three questions related to the roles of different agencies in bond market development: First, which agency or institution should take the leading policy role in advocating the development of the local corporate bond market? Second, what part should central banks play in the development of this market? Third, how should central banks work with other regulators and supervisory authorities? Often there are a number of government agencies involved in capital markets. It would be best that each agency understands its own role. The various agencies should try and identify market impediments, endeavour to remove these impediments and encourage market participants to improve liquidity. However, the role of any government agency will change as the market develops. The government's role as an issuer would serve market development if it could help provide a liquid benchmark yield curve, auction government bonds in a transparent manner, minimise uncertainty by announcing issue schedules and publish user-friendly market statistics. The central bank's role may include collecting and publishing market data, encouraging document standardisation, appointing market-makers, coordinating market committees and ensuring sound custodian and payment systems. Mr Tyler also identified a number of common impediments to bond market development, such as documentation complexity and high taxes.

V K Sharma of the Reserve Bank of India outlined steps to further promote corporate bond markets in India. After a review of the lessons learned from developing bond markets, Mr Sharma discussed the underlying government securities market and its role in the functioning of the corporate bond market. He offered a number of thoughts about what changes are being contemplated for the government bond market in India, and how they will help the development of the local corporate debt market, emphasising the importance of first developing the government bond market.

China's corporate bond market development: lessons learned

Zhou Xiaochuan[1]
People's Bank of China

We are very glad to see our central bank colleagues present at this seminar on developing corporate bond markets in Asia. It is our great pleasure to co-host this event with the BIS, and we are particularly pleased to have Malcolm D Knight, the BIS General Manager, joining us to share his insights on the seminar topics. In meetings to be held today and tomorrow, colleagues from around the region and the world will share their experiences with us.

I am also pleased to take advantage of our position as a co-host to talk about corporate bond market development in China thus far and, in particular, the urgent need to accelerate progress.

I. Macroeconomic environment

The Chinese economy has enjoyed GDP growth of approximately 9% per annum in recent years - with the strong momentum likely to continue in 2006 - while CPI inflation has been kept in check.

The abundant liquidity in the economy contributes to low interest rates and subdued inflation. Moreover, the savings rate is noticeably high. As a result, the M2/GDP ratio is high compared to other economies, and may well approach 200% in 2005. Commercial banks have continued to play a dominant role in channelling savings into investment. In contrast, financing through the equity market remains small, while the bond market accounts for less than 10% of such intermediation.

China's bond market appears to be very large, but in proportion to GDP, bond market financing is still insignificant. Of bonds outstanding, some 40% are government bonds, while the rest are corporate bonds issued by both financial and non-financial institutions. Furthermore, the value of financial institutions' bonds outstanding is seven or eight times that of non-financial corporate bonds.

Currently, the bond market in China is divided into an over-the-counter (OTC) market and an exchange market. The OTC market is basically an interbank market where there is little regulation, and institutions are free to participate and strike deals at the prevailing market prices. Since its establishment in 1997, the OTC market has expanded to include both financial and non-financial institutions, and currently the issues of more than 4,000 non-financial corporations are traded there. Meanwhile, we are also trying to develop our short-term corporate bonds and commercial paper in the OTC market. We are very eager to learn from the experience of other countries as to how to allow the bond market to play an important role in economic development.

II. Problems in corporate bond development

China's underdeveloped corporate bond market has distorted the financing structure in the economy, which poses a threat to financial stability, as well as to social and economic development. Setbacks and mistakes had their roots in the specific circumstances of the past. In particular, in the early days of China's economic transition, central planning still played a more important role than market forces. In 2003, however, the third Plenum of the 16th Communist Party of China Central Committee called for a

[1] Governor of the People's Bank of China. This text is based on the remarks made at the BIS/PBC seminar on "Developing corporate bond markets in Asia" held in Kunming, China on 17-18 November 2005. It also draws on a number of previous speeches.

greater role for direct financing through establishing a multi-tier capital market system, and through encouraging the growth of institutional investors. Only by thoroughly understanding the problems and mistakes of the past can we find more effective solutions. The following is a list of serious mistakes committed initially during the late 1980s and mid-1990s. Even today, some of these mistakes may still be impeding the development of the corporate bond market in China.

1) The administrative allocation of quotas for issue size and number of issuers was mandated by the central government to provincial and lower-level governments.

2) Administrative allocation of quotas was often used as a relief measure for financially distressed enterprises.

3) The absence of a credit rating system made it impossible for investors to obtain a clear idea of risks.

4) There was a lack of information disclosure to investors, due to i) inadequate accounting and external audit standards and ii) lack of regulatory emphasis on proper disclosure by issuers as well as prudent analysis by investors.

5) Administrative pricing of corporate bonds and price controls failed to reflect risks, thereby preventing effective risk management by issuers and investors.

6) Authorities required bank guarantees for corporate bond issuance and still do so today. Since issuance quotas were administratively allocated and prices controlled, and neither information disclosure nor credit ratings were available, bank guarantees seemed to be the natural solution. However, once guaranteed by a bank, the product was no longer a standard corporate debt but, rather, akin to a high-yield deposit at a commercial bank.

7) Bond issues were targeted at retail rather than institutional investors, who were capable of risk assessment.

8) Effective market discipline was not established. Market forces can discipline both the issuance and trading of corporate bonds as investors exercise their judgment in the choice of products - thereby giving them the final say on issue conditions, prices and consequences of default. Lack of effective market discipline can lead to a recourse to administrative means, which can give rise to a series of problems. In addition, in order for the OTC market to play a dominant role, a proper trading mode should be established to ensure proper assessment of counterparty risks and pricing flexibility.

9) Investor education was not sufficient. To a large extent, many investors used to treat corporate bonds as just another savings deposit product. Whenever a default of corporate bonds occurred, they would turn to government agencies and demand redemption by underwriters. Moreover, the protection given by local governments to bond investors undermined the incentive for them to evaluate the risks involved.

10) The current Bankruptcy Law did not provide investors with effective liquidation as a form of recourse in the event of default. In China, the residual assets - and even the issuer - could often simply disappear without going through legal procedures. Although we have been working hard on a new bankruptcy law, the current one does not provide adequate protection for creditors.

11) The underwriter's role was not properly defined. Underwriting and redemption typically came under the umbrella of central planning and administrative intervention. Furthermore, the underwriter was considered liable when the issuer failed, an arrangement that blurred distinctions between the underwriter, sales agent and redemption agent.

12) Administrative intervention was even stronger in cases of corporate issuer default. The default of a corporate issuer was not dealt with according to market principles; rather, for reasons of social stability, the underwriter would be requested to issue bonds on its own to meet the obligations of the corporate issuer - with the consequence that the liability of the default issuer was transferred to the underwriter. The problems of some securities companies undergoing liquidation or restructuring were partly attributable to the burden they had to shoulder for the defaulted corporate issuers.

III. Possible solutions

Thanks to our own lessons from the past as well as those drawn in other economies, we can find effective solutions to our problems. First, we have to move from a strategy based on central planning to one based on market forces. If the practices of quota allocation, administrative approval and government intervention were to continue, the prospects for the bond market would be dismal. Furthermore, the old-fashioned mindset that harks back to central planning must be put aside when we analyse what has gone wrong. It is unfortunate that some analysts attribute the derailing of bond market development to non-fundamental factors. Therefore, it is helpful to hold in-depth discussions to understand these questions on an occasion like today.

Second, we need to get the logic right. It is important that corporate bond issues should target the right investors and trade on the right trading platform. We have to start with Qualified Institutional Borrowers and OTC markets, so that institutions with strong analytical and risk management capabilities can play a bigger role. This will also facilitate streamlining of administrative approval and control because these qualified institutional investors rely mostly on information disclosure and market discipline, rather than on the judgment of the regulatory authorities. This in turn will also make guarantees by commercial banks unnecessary. Furthermore, institutional investors are better able to detect default risks, and are more resilient when such risks do materialise. The government does not need to worry too much about them.

Third, we should spare no effort in strengthening institutional arrangements and improving the financial eco-environment, to build on the progress already made. Our accounting standards are being brought into line with best international practice; requirements on disclosure and oversight have been enhanced; and the Bankruptcy Law is being amended with a view to better protecting creditors. In addition, we are trying hard to foster the domestic rating agencies necessary for bond market development, although these rating services may grow only slowly over time. The basic policy is to allow international rating agencies to set up joint ventures to provide high-quality services. Such a move is likely to be quite controversial due to the traditionally strong protectionist mentality of the past; however, we now have to accelerate progress towards international accounting standards and rating services.

Fourth, efforts are needed to improve government efficiency, and break bureaucratic segmentation in market organisation, service, infrastructure and supervision. Institutional and organisational impediments to market building and bureaucratic friction have hindered the development of China's corporate bond market - and we are still facing a legacy from the past in this regard. Different authorities are responsible for approving bond issuance, monitoring issuing conditions, and regulating the OTC and exchange markets. In addition, differences in market infrastructure make cross-market transactions difficult. These are problems we will have to deal with in the process of developing the bond market.

IV. Questions to be answered

There are a number of other problems we still face in developing corporate bond markets, ones for which there may be no easy solutions.

First, China shares with a number of Asian economies some similar macroeconomic conditions, such as high savings rates and abundant liquidity. Both of these macroeconomic conditions tend to militate against the development of a corporate bond market. Indeed, corporations with good credit standing do not have strong motivation to issue bonds as they can easily obtain loans from commercial banks at low interest rates. To develop the corporate bond market, adequate market liquidity may be desirable. However, if bond buyers are mainly institutional investors and financial institutions with too much liquidity on hand, they may not be very interested in trading in the secondary market.

Second, should we allow foreign participants to enter the domestic bond market? In China, the bond market remains relatively closed. Since the renminbi is not a convertible currency, we have not allowed foreign institutions access to the market. Recently, though, we did allow both the Asian Development Bank and the International Finance Corporation to issue local currency bonds in the domestic market, and have plans to open up the market further. We recognise that there are still impediments in both practice and mentality to promoting open markets. But eventually, we will open

the domestic bond market to foreign investors, foreign issuers and foreign financial service providers such as credit rating agencies.

Third, in China there is constant debate on whether the bond market should serve mainly the financing needs of large corporations or small- and medium-sized enterprises (SMEs). One point of view is that easy access for large corporations to the capital markets would increase competition in financial intermediation and thereby encourage commercial banks to lend to SMEs - as has happened elsewhere in the world. To improve asset quality and reduce non-performing loans, commercial banks currently tend to lend to large and well-run enterprises. There is nothing wrong with this approach. However, once large and well-run enterprises develop a preference for financing through bond markets, commercial banks will get the message and divert more of their resources to study SME financing business, and may even establish their own SME departments.

Another approach is to focus on the development of a corporate bond market for SMEs, as they are critical to employment and social and economic stability. However, such bonds are likely to be high-yield and high-risk. Without sufficient preparation, a properly-qualified investor base and/or an adequate pricing mechanism, an SME debt market is likely to be problematic. Indeed, is it feasible to launch non-investment-grade bond products at such an early stage of market development? This is really an issue of how to sequence corporate bond market development. Should we develop a low-grade market after a high-grade corporate bond market is fully developed or foster the growth of both at the same time? We need to do more research on these issues. Many countries do not yet have a mature SME bond market. Even in the US, the collapse of the high-yield “junk” bonds in the late 1980s and early 1990s, as symbolised by the downfall of Michael Milken, might have both positive and negative impacts. I think this episode in the bond market history deserves careful study. We will also watch closely the experiences of other countries, especially those of our neighbours. On the other hand, we have to consider whether their experiences are applicable to China.

So, we have many questions in our minds. We sincerely hope that in the meetings to be held today and tomorrow, we can have fruitful discussions on these issues and share experiences candidly. Certainly, my PBC colleagues will benefit enormously from this seminar.

Sharing experiences in developing corporate bond markets

Malcolm D Knight[1]
Bank for International Settlements

It is a pleasure to be in Kunming, participating in this very interesting discussion on developing corporate bond markets in Asia. As I said earlier today, we have Governor Zhou to thank for the idea of holding a seminar on financial markets in Asia, and for the choice of this specific topic.

At the BIS, we have been impressed with how, in the space of just a few years, you in Asia have been able to develop your government bond markets. These markets now function with well-designed auctions, reasonably liquid secondary markets and efficient settlement systems. It is now clearly time to turn our attention to corporate bond markets, still a rather neglected topic in the world of central bank meetings and market participant conferences.

As you know, even where the corporate bond market is as large as the government bond market, the difference in liquidity between these two markets can offer a stark contrast. You can have active trading in government bonds and hardly any trading in corporates. We still don't know very much about how to foster liquidity in corporate bond markets, and this is why this seminar is so timely.

Why do we need well-functioning local currency corporate bond markets? We all understand how the availability of local currency funding precludes currency mismatch problems, and how the availability of bond financing mitigates maturity mismatch problems in the banking system. Perhaps most importantly, though, a robust financial system requires a diversity of financing channels, in which both banks and fixed income markets compete in gathering funds and onlending them to deficit-spending agents. As Marvin Goodfriend explained this afternoon, bond financing strengthens the financial system by serving as an additional alternative form of intermediation to short-term credit markets, which are inherently volatile and subject to sudden stops and creditor runs.

You have seen these creditor runs in your own markets, but they also happen in the large markets of the most advanced economies. In November 2001, for example, a consequence of Enron's default was that the US commercial paper market seized up. Banks were suddenly reluctant to provide backup liquidity lines. Fortunately for the major borrowers in this market, they could turn to the bond market, which remained liquid and resilient. To use Chairman Greenspan's metaphor, corporate bond markets are an important "spare tyre" that is always ready to be brought into active use, especially at times when other financing mechanisms "hit potholes".

When I look at Asia's corporate bond markets, one of the first things that strike me is how much they differ in size across countries. If we define corporate bonds to include quasi-government issuers and financial institutions, the big markets are Japan, Korea, China and Australia, each one with over $100 billion in outstanding issues. The medium-sized ones are Malaysia, Thailand, Hong Kong SAR, New Zealand, India and Singapore. The smaller ones are Indonesia and the Philippines.

I mention size because the size of total outstandings does seem to matter as an indicator of bond market efficiency. In 2000, two of my colleagues at the BIS, Bob McCauley and Eli Remolona, wrote an article[2] suggesting that the size threshold for a deep and liquid government bond market is $100 billion. This is, of course, only a rough threshold, and does not account for a number of factors that would affect liquidity. Nonetheless, whatever the threshold, it is actually likely to be higher for corporates than it is for governments, not least because individual corporate issues traded are of smaller size and far more heterogeneous.

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[1] General Manager of the Bank for International Settlements (BIS). This text is based on remarks made at the the BIS/PBC seminar on "Developing corporate bond markets in Asia" held in Kunming, China, 17-18 November 2005.

[2] R McCauley and E Remolona, "Size and liquidity of government bond markets", *BIS Quarterly Review*, November 2000.

However, in mentioning size thresholds, I don't want to leave the impression that the smaller markets have little hope of developing liquidity. I only wish to suggest that the current size of the market is likely to have important implications for the strategy necessary to develop it. I think this is useful to keep in mind because it is often very tempting to try to emulate the structure of the US corporate bond market. Because of the size and long history of the US corporate market, it is familiar to everyone and much has been written about it. But the domestic US corporate bond market is over $13 trillion in size and, by virtue of that size alone, there are things that work in that market that may not work in other markets.

To cite one issue we face, if the US market has a government bond benchmark yield curve that helps in the pricing of corporate debt, does that mean your market should have the same kind of yield curve? Let's bear in mind that even the euro zone's corporate bond market, which is about $7 trillion in size and which functions efficiently, relies for its benchmark yield curve not on a government curve, but on the euribor or euro-swaps curves.

It is precisely for this reason that a seminar like this is so useful: it is a way to share experiences and not depend on just those of the US market, which may well be unique to that economy and therefore not applicable in a "cookie cutter" fashion elsewhere.

The experience of the Korean corporate bond market is illuminating. As I mentioned earlier, this is now quite a large market, with the equivalent of more than $350 billion in outstanding issues. Yet, before the 1997 crisis, as Mr Lee has told us, the market was characterised by strict government controls on the amounts of bonds that could be issued, as well as by mandatory bond guarantees. In 1997, guaranteed bonds were 85% of the market. The crisis, however, led to the failure of both the Korea Guarantee Insurance Company and Hankook Fidelity and Surety Company. Since then, the market has become one in which the government generally limits itself to prudential oversight and non-guaranteed bonds dominate issuance. It is a market in which investors seem to be learning very quickly how to monitor issuers' credit quality, and to trade and price default risk.

The experience of the Malaysian market is another good example. I know that Muhammad Ibrahim will talk about this tomorrow morning, but I cannot help but be impressed by the strides this market has made in recent years. So let me just mention two things about it. First, the corporate and government bond markets in Kuala Lumpur have the same market infrastructure: they have the same dealers, the same reporting system and the same real-time gross settlement system. This is certainly not the case for the US Treasuries and US corporate bond markets. But the point is that there are important economies of scale in such infrastructure - dealer networks, reporting and settlement. I think our Malaysian friends are showing us how to exploit these economies. In the United States, each market is already so large that separate systems exploit most of the available economies, and these can only be exploited in smaller markets when these functions are merged across governments and corporates. This is a key area where - it appears - it might not be optimal for Asian countries to import the US model. Second, the Malaysians have put in place a reporting system that has made their corporate bond market a rather transparent one in the sense of what Professor Sundaresan would call "ex post transparency". Tomorrow, we will hear from Amy Edwards about the advantages for liquidity of such transparency.

Finally, how about the smaller markets - what can they do to overcome the disadvantages of their size? I think our Australian friends have much to share in this regard. The Australian corporate bond market seems to owe much of its growth and vibrancy to its openness to foreign issuers and investors. As the paper from the Reserve Bank of Australia points out, foreign issuers are now the second largest sector in their market and this sector - known as the "kangaroo market" - is now A$60 billion, or US$44 billion, in size. Indeed, we have now seen the first foreign bond issues in the Thai baht, the Malaysian ringgit and the Chinese renminbi, although so far these have been only by AAA-rated supranational issuers. On the subject of attracting foreign investors, much has already been said about the importance of further removing restrictions on foreign participation, reducing withholding taxes and developing credible domestic rating agencies. To allow these investors and issuers to hedge against currency risk, the Australian experience also suggests that we will need to develop liquid markets in currency swaps.

I look forward to further interesting discussions tomorrow. Thank you, and let me take this opportunity to also thank the People's Bank of China, both for its efficient arrangements for this seminar and its choice of what I see as a fascinating topic that I hope will occupy all of us in the immediate future.

Developing corporate bond markets in Asia

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1. Introduction

Since the 1997 crisis, bond market development has become a high priority for policymakers in Asia. The development of local currency bond markets has been seen as a way to avoid crisis, with these markets helping to reduce potential currency and maturity mismatches in the financial system. Indeed, several Asian economies have succeeded in developing fairly active primary and secondary markets in local government bonds.

Authorities across Asia have now turned their attention to local currency non-government bond markets, or what we might term "corporate bond" markets. They recognise that a robust financial system requires multiple channels of financing, in which banks and fixed income markets compete for borrowers. As the 1997 crisis itself demonstrated, short-term credit markets are prone to creditor runs, and a corporate bond market can provide the economy with an important backup form of intermediation.[1]

While primary markets for corporate bonds in Asia have grown significantly, the growth in some markets has been led by quasi-government issuers or issuers with some form of credit guarantee. This may have happened because investors have had little access to the kind of information that would allow them to adequately evaluate the credit risks of other potential issuers. The secondary markets have developed even less, with little trading activity to be seen. Such inactivity may stem from a lack of investor diversity, inadequate market microstructures and insufficient flows of timely information.

In what follows, we first describe corporate bond markets in Asia and the Pacific in terms of their size and issuers. We then characterise the secondary markets and suggest reasons for the lack of liquidity in these markets.

2. Primary markets: size and issuers

We rely on BIS statistics to characterise the size and composition of 12 markets for local currency corporate bonds in Asia and the Pacific. These markets are those of Australia, China, Hong Kong SAR, India, Indonesia, Japan, Korea, Malaysia, New Zealand, the Philippines, Singapore and Thailand. In this characterisation, "corporate bonds" are broadly defined to include all non-government long-term debt issues, including those by quasi-government issuers, financial and non-financial issuers and resident and non-resident issuers.[2]

2.1 Market size, liquidity thresholds and crowding out

At the end of 2004, the 12 local currency markets featured in this paper had corporate bonds outstanding of over $2.9 trillion. The Japanese market alone is over $2 trillion in size, accounting for

[1] In Greenspan's (2000) words, a functioning capital market might have provided the Asian countries with a "spare tyre", rendering the crisis more benign. Diamond (2004) shows formally why it is the nature of short-term credit markets to be prone to creditor runs.

[2] In Malaysia, this would be called the long-term part of the "private debt securities" (PDS) market.

two-thirds of the total (Table 1). Behind Japan are three markets that can still be considered rather large: Korea with $355 billion, China with $196 billion and Australia with $188 billion. These four markets are "large" in the sense that they exceed the $100 billion threshold McCauley and Remolona (2000) estimate would be required for a deep and liquid government bond market.[3] Because corporate bond issues tend to be more heterogeneous than government bond issues and their issue sizes smaller, such a threshold for corporate bond markets would likely be higher. Factors other than size that would affect liquidity are addressed in Section 3 below.

Table 1

Size of corporate bond markets and other channels of local currency funding

Selected countries, end-2004

	Corporate bonds[1]		Other channels as % of GDP		
	Amounts outstanding (USD billions)	As % of GDP	Domestic credit	Stock market capitalisation	Government bonds
Australia	187.5	27.1	185.4	111.5	13.8
China	195.9	10.6	154.4	33.4	18.0
Hong Kong SAR	61.9	35.8	148.9	547.7	5.0
India	24.5	3.3	60.2	56.8	29.9
Indonesia	6.8	2.4	42.6	24.5	15.2
Japan	2,002.0	41.7	146.9	76.9	117.2
Korea	355.6	49.3	104.2	74.7	23.7
Malaysia	49.7	38.8	113.9	140.8	36.1
New Zealand	29.9	27.8	245.5	41.1	19.9
Philippines	0.2	0.2	49.8	37.5	21.8
Singapore	21.7	18.6	70.1	211.4	27.6
Thailand	31.9	18.3	84.9	67.1	18.5
Memo: United States	*15,116.6*	*128.8*	*89.0*	*138.4*	*42.5*

[1]Domestic and international bonds and notes in domestic currency issued by residents and non-residents.

Sources: IMF; World Federation of Exchanges; Dealogic Bondware; national data; BIS

Whatever the actual liquidity threshold, the remaining corporate bond markets would seem to have far to go to reach it. The next largest market is Hong Kong with $62 billion, followed by Malaysia with $50 billion, Thailand with $32 billion, New Zealand with $30 billion and India and Singapore each with $22 billion. Two other economies - Indonesia and the Philippines - have smaller markets. As discussed below, opening up to foreign issuers and investors may help a market overcome the disadvantages of a small size.

The size of a market would depend not only on the size of the economy, but also on its level of development. In addition, market size would be affected by the competition among financing alternatives on either the issuer or investor side. While the banking sector or equity market would compete with the debt market for the same potential corporate issuers, the financing of heavy budget deficits may crowd out potential investors. Still, it is not surprising that the deepest corporate bond

[3] This is, of course, only a rough threshold and does not take into account a number of factors that would affect liquidity.

markets are those of the higher-income economies of Korea, Japan, Malaysia, Hong Kong and Australia. In each of these cases, as shown in Table 1, the size of the market exceeds 25% of GDP. New Zealand and Singapore are notable exceptions in this regard: these are relatively well-developed economies with limited government borrowing needs, but both have relatively shallow corporate bond markets. In both cases, competing financing alternatives for potential issuers may be a key factor: New Zealand depends heavily on its banking sector and Singapore on its equity market. Indeed, the depth of the corporate bond markets of Hong Kong and Australia may be due in part to their relatively small government bond markets.

2.2 Composition of issuers

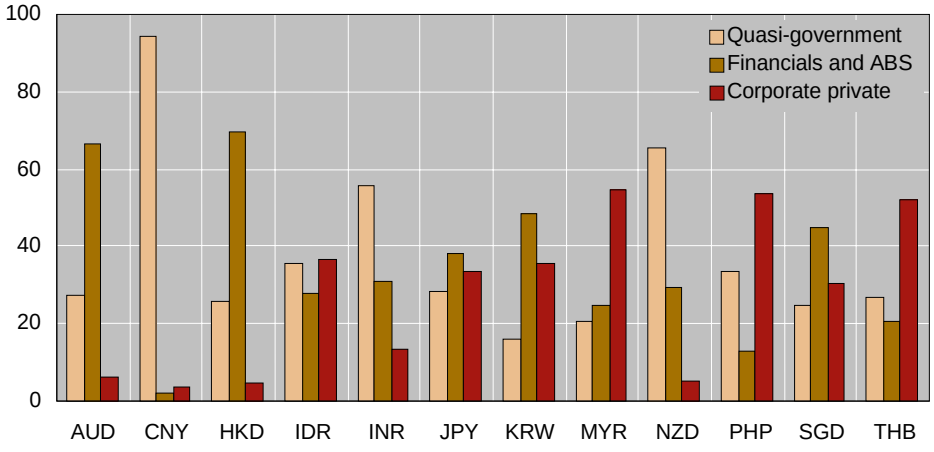
The types of issuers we find in a given market are a clue to how developed the market is. In a well-developed market, any large firm should be able raise funds, because it will pay for investors to evaluate its credit quality on the basis of publicly available information. Hence, beyond the size of a market, a measure of its development would be the range of credit quality of the borrowers that come to the market. The presence of non-resident issuers may also represent a vote of confidence, indicating a market that is able to provide funds on terms that are competitive with those available in foreign credit markets.

In Asia, issuers in some markets still seem to be concentrated at the high end of the credit quality spectrum. In Malaysia, about 40% of the market consists of issuers with the equivalent of triple-A ratings and another 40% the equivalent of double-A ratings.[4] In Korea, some 60% of the market is triple-A.[5] For more systematic data on the credit quality of issuers, we can turn to indirect evidence in the form of the division of issuers into quasi-government issuers and others. Quasi-government issuers are likely to borrow with government guarantees, whether explicit or implicit. Hence, they are likely to have the highest credit quality available in the country. As shown in Graph 1, quasi-government issuers dominate three of the markets: China, India and New Zealand. These issuers also represent more than a third of the market in Indonesia and the Philippines. While financial institutions do dominate four other markets - Australia, Hong Kong, Korea and Singapore - this is no different from the pattern in the more developed markets of Europe and the United States, and, at least in the case of Australia, most of the financial issues are in fact asset-backed securities (ABSs).

Graph 1

Types of issuers in 12 corporate bond markets

In % of total outstanding, end-2004



Sources: Dealogic Bondware and BIS.

[4] For purposes of comparison, the US market has its highest concentration of issuers in the single-A grade, followed by the triple-B grade.

[5] Nonetheless, it is notable that the Korean market has graduated from one dominated by issues backed by credit guarantees to one in which such issues are a negligible fraction.

In the markets dominated by highly rated issues, it is likely that institutional investors have internal guidelines that limit them to investing only in such securities. Such guidelines, however, may merely reflect a reality in which the public information available is not adequate for investors to assess the creditworthiness of most potential issuers. This possibility is suggested by Bhattacharya, Daouk and Welker (2003), who find that the opacity of earnings releases tends to be high in Asia. Fan and Wong (2002) argue that such releases in Asia tend to lack relevant information because of cross-holdings and pyramid ownership structures.

Table 2

Local currency corporate bonds by residence of issuer[1]

At end-2004

	Residents (USD billions)	% of total	Non-residents (USD billions)	% of total
Australia	134.0	71.5	53.5	28.5
China	195.9	100.0	0.0	0.0
Hong Kong SAR	27.3	44.1	34.6	55.9
India	24.5	100.0	0.0	0.0
Indonesia	6.8	99.8	0.0	0.2
Japan	1,646.1	82.2	355.9	17.8
Korea	355.2	99.9	0.4	0.1
Malaysia	49.5	99.6	0.2	0.4
New Zealand	4.1	13.8	25.8	86.2
Philippines	0.2	86.8	0.0	13.2
Singapore	13.9	64.0	7.8	36.0
Thailand	31.8	99.8	0.1	0.2
United States	13,535.9	89.5	1,580.7	10.5

[1]Domestic and international bonds and notes in domestic currency issued by residents and non-residents

Sources: Dealogic Bondware and BIS.

As discussed earlier, the presence of foreign issuers may indicate how well-developed a market is, but may also reflect the efforts of policymakers in a small economy to find ways to enlarge their market, thereby making it more viable. As shown in Table 2, New Zealand, Hong Kong and Singapore host the highest proportions of non-resident issuers, with these issuers comprising 86%, 56% and 36% of these markets, respectively. Australia also has a relatively high proportion of 29%. By this metric, these four markets may be the best-developed ones in the region.

3. Secondary markets: reasons for illiquidity

The secondary markets for local currency corporate bonds in Asia have lagged far behind their government bond counterparts. While government bond markets have become reasonably liquid over the past few years, corporate bond markets remain illiquid. As shown in Graph 2, the turnover ratios for Asian corporate bond markets are typically a small fraction of those for their government bond counterparts. Liquidity differences of this magnitude are to be expected, because, as mentioned

before, corporate issues tend to be more heterogeneous and smaller in size than government bond issues.[6]

Nonetheless, turnover ratios for corporate bonds in Asia indicate low levels of liquidity. The most notable exception in this regard is the Australian market, which has a turnover ratio higher than that of the US market.

Four salient factors appear to be keeping liquidity low in the Asian markets: a) a lack of diversity in the investor base; b) inadequate market microstructures; c) market opaqueness; and d) a limited flow of timely information about issuers. We discuss each of these factors below.

3.1 Diversity of investor base

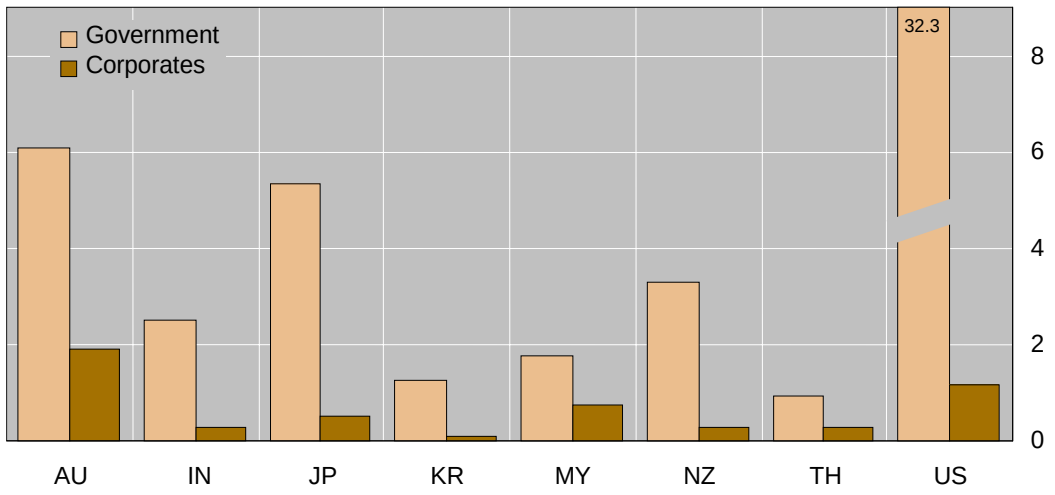
A diversity of investors fosters trading activity. With such diversity, it becomes less likely that different investors will find themselves on the same side of the market, either as sellers or buyers. They are more likely to disagree on the credit quality of an issuer, and thus more willing to trade, and less likely to need liquidity at the same time. In Asia, such diversity seems to be rather limited: the investor base for corporate bonds tends to be dominated by government-controlled provident funds, insurance companies and banks. Once a bond is issued, it normally disappears into the portfolios of buy-and-hold investors. Those who might trade more actively, such as fixed income funds and hedge funds, are typically missing from these markets or are not allowed exposures in credit risk.

An important class of investor missing from some Asian markets is foreign investors, including global financial intermediaries. In general, myriad market impediments discourage them from participating in the local markets. Among the impediments are withholding taxes and the lack of deep markets for hedging instruments, such as currency swaps. Policymakers in Asia are aware of these deficiencies,

Graph 2

Turnover ratios

2004 and in %



Sources: Bank of Korea; Bank Negara Malaysia; Bank of Thailand; Reserve Bank of Australia, Bond Market Association of the US; Japan Securities Dealer Association; Australian Financial Markets Association; NSE India.

[6] This difference is evident in bid-ask spreads for US markets. Fleming and Remolona (1999) calculate the bid-ask spread for on-the-run Treasury securities to be between a sixth and a third of a basis point on the yield. Chakravarty and Sarkar (2004) estimate the average bid-ask spread for corporates to be about 21 cents per $100. For a five-year bond, this amounts to about 4 basis points on the yield.

though. In setting up the Asian Bond Fund 2 (ABF2), as Ma and Remolona (2005) explain, central banks in Asia have been able to alleviate some of this. The Philippines, for example, recently removed documentary stamp taxes in the secondary trading of fixed income securities, which had discouraged foreign investors from participating in its local market.

3.2 Market microstructure

Fixed-income debt securities tend to trade more actively on over-the-counter (OTC) markets than on exchanges.[7] The most liquid OTC markets are those for government securities, which tend to rely on designated market-makers (Sundaresan, 2002), as well as on inter-dealer brokers who allow dealers to trade with each other anonymously. Such microstructures have often required the intervention of governments to encourage market participants to set them up. Indeed, in most Asian markets primary dealers for government securities have been appointed and are required to make markets for these securities. Corporate bonds, however, have not had the benefit of such government-supported microstructures. As shown in Table 3, while most corporate issues in Asia do trade on OTC markets, they still lack liquidity.

Table 3

Secondary corporate bond markets

	Market type	Trade size in local currency	Bid-offer spread (basis points)	Ex post transparency
Australia	OTC/Exchange		2-10	…
China	OTC/Exchange	…	5-10	…
Hong Kong SAR	OTC	50-100m	10-15	…
India	OTC/Exchange	50m	…	…
Indonesia	OTC	…	…	…
Japan	OTC	…		…
Korea	OTC/Exchange	10bn	2-5	Yes (KSDA)
Malaysia	OTC	5m	5-10	Yes (BIDS)
New Zealand	OTC	…	5-15	…
Philippines	OTC	25-50m	Varies	…
Singapore	OTC	1-5m	10-15	…
Thailand	OTC/Exchange	10-40m	5-10	Yes (ThaiBMA)

Sources: Bloomberg, Citigroup (2005), and informal discussions with market participants.

In Asia, efforts to foster liquidity in corporate bonds have included having them listed on existing stock exchanges or even the setting up of exchanges devoted to fixed income securities. So far these efforts have not borne fruit. In Seoul, for instance, over 90% of the secondary trading in corporate bonds still takes place in the OTC market and only 10% on the exchange, even with the mandatory requirement that the trading of on-the-run benchmark government bonds among primary dealers must take place at the exchange market. In Thailand, the turnover ratio has been 30% in the OTC market and only 1% on the local exchange. China presents an interesting case: because of regulatory fragmentation, financial issues have been traded only in the local interbank OTC market, while non-financial names have been traded either on the two domestic stock exchanges or in the interbank OTC market.

[7] In the market microstructure literature, OTC markets are said to be "quote-driven" markets requiring dealers willing to maintain inventories, while exchanges are often "order-driven" markets requiring a continuous flow of buy and sell orders.

In the OTC markets, there tends to be one, or at most two, dealers for a single issue, who usually are the lead underwriters of that issue. Indicative quotes from dealers are sometimes available on Bloomberg, but, for the most part, ex ante transparency consists of dealers faxing quote sheets to potential investors. In most Asian markets, different dealers fax only a limited and often non-comparable subset of the names in the rather heterogeneous corporate universe. There is no evidence of any formal inter-dealer market or of inter-dealer brokers who specialise in corporate bonds. Thus, the secondary market for corporate bonds tends to be uncompetitive, resulting in wide bid-ask spreads that discourage trading. Market participants suggest that bid-ask spreads are about five to ten basis points, even for the most liquid issues (Table 3).

3.3 Market opaqueness

A third and related factor affecting liquidity is transparency of trading activity. Ex post transparency encourages competitive pricing and makes investors confident that they are getting good prices, as demonstrated by the recent experience of the US corporate bond market. Until about a few years ago, trading in US corporate bonds had been lacklustre. Since July 2002, however, dealers in corporate bonds have been required to report all OTC trades to the Trade Reporting and Compliance Engine (TRACE) of the National Association of Securities Dealers (NASD). TRACE disseminates reported prices within 15 minutes of a trade.[8] The introduction of such ex post transparency seems to have had a significant impact on liquidity. Edwards, Harris and Piwowar (2005), for example, find that such transparency has reduced bid-ask spreads by five basis points.

In recent years, some Asian markets have started to enact reporting requirements similar to or even surpassing those of TRACE. Much of this transparency, however, has been limited to transactions among dealers. Malaysia has the Bond Information Dissemination System (BIDS), in which dealers are required to enter trades (price and volume information) into the system within 10 minutes of a trade. This information then becomes available to the BIDS screen subscribers, which tend to be the participants on the "sell" side of the market. At least for those with access to BIDS, this system seems to provide better ex post transparency than even TRACE. The Thai Bond Market Association (ThaiBMA) requires traders to report OTC trades within 30 minutes and distributes the trade information to members four times a day. The Korea Security Dealers Association (KSDA) requires dealers to report their transactions within 15 minutes via its information distribution system, which disseminates the information to the public on a website on the same day. Even greater ex post transparency may be required if markets are to become more liquid.

3.4 Flow of timely information

The fourth limiting factor is perhaps the most critical one. Corporate bond markets in Asia seem to have a very limited flow of timely information about issuers. In markets such as those for corporate bonds, much liquidity can be generated by the activity of investors who disagree about fundamentals. Such information-based trading provides spillover benefits to those who are in the market for purely liquidity reasons. Moreover, such trading tends to be active when there is a significant flow of information about the credit quality of issuers, with every new piece of information creating a new reason to disagree.

In the more developed markets of Europe and North America, the flow of market-relevant news takes various forms. Issuers themselves provide quarterly financial reports and profit warnings; the financial press and information services report on major deals and transactions and important corporate events; and credit rating agencies make various announcements about changes in their views on rated companies. Trading in corporate bonds tends to pick up around these information events.

The market reactions to the various rating agency announcements illustrate the importance of timely information. Rating agencies have chosen to be very careful and deliberate about changing credit ratings, and hence rating changes tend to significantly lag the arrival of the relevant information in the markets. In their effort to be timely, rating agencies have devised "review" announcements -

[8] The majority of trades are transparent as soon as they are reported.

"Watchlist" in the case of Moody's and "CreditWatch" in the case of Standard and Poor's. These announcements are made as soon as significant information is released, and they signal the possibility of a rating change within a few months. Micu, Remolona and Wooldridge (2004) have documented that market reactions to rating agency moves are strongest for these review announcements.

Asian markets typically do not see such information flows. Many issues carry one form of government guarantee or another, making the credit quality of the issuer irrelevant. The guarantees, of course, rarely change, giving investors no reason to disagree and therefore no reason to trade. When issuers do release information, even with common law sources of accounting standards, Ball, Robin and Wu (2003) find a pattern in which financial reporting in some Asian markets tends not to recognise economic losses in a timely way. Local credit rating agencies do exist in Asia, and often ratings are mandatory for bond issues. Most such rating agencies, however, are quite new and have not developed the reputation that will allow investors to trust their judgments on all but the largest and most highly rated names.

4. Conclusion

In their effort to develop their local currency corporate bond markets, policymakers in some Asian countries face fundamental questions. In the case of primary markets, should they emphasise further growth even if issuance remains concentrated in quasi-government issuers and those with explicit or implicit credit guarantees? Or should they focus their efforts on disclosure rules, accounting standards and transparency so that investors can get the information they need for assessing credit risk for a broader range of potential issuers? While concentrating on the first goal may be a good way to start, is it time to develop a culture of credit assessment and pricing of credit risk?

In the case of the secondary markets, the policy questions have to do with whether to focus on developing market microstructure, on diversifying the investor base or strengthening the institutions that foster flows of market-relevant information. These approaches are not necessarily substitutes and may be pursued together for greater effectiveness. In practice, however, developing market structures - for example, setting up fixed income exchanges - appears to be the most straightforward approach, while the others appear more complex and their pay-offs longer-term. Nonetheless, diversifying the investor base and improving the flow of market-relevant information are perhaps more important in the long run.

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Why a corporate bond market: growth and direct finance

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In my remarks today, I provide a brief overview of the role of direct corporate borrowing versus bank loans in the process of economic development. In the earliest stages of economic development, firms finance investment by building up savings from internally generated funds. Self-funding is supplemented by loans from close relatives, extended family members, friends in the community and the like. Such "inside" funding overcomes information and credibility problems, and provides an incentive for owners to use the funds energetically, as promised. The borrower is bonded by its close relationship to family and community. Indeed, close relationships monitor the borrower's behaviour and can enforce discipline on the borrower if need be.

As an economy develops, self-funding and inside funding become insufficient to finance firms that must manage complex production processes and serve broader markets. Firms must attract additional financing from external sources. Banks arise to provide information-intensive external funding, and, in effect, recreate the kind of information, bonding and monitoring that come with family relationship lending, only with more funding. The cost of external funding through banks involves credit evaluation, loan monitoring, and a component to allow for the risk of default and the cost of managing a default if it occurs. These costs of external finance create an external finance premium that a borrower must pay over and above the opportunity cost of self-funding or funding from close associates.

As an economy continues to develop, some firms need increasingly large external funds. Firms that are widely known can bypass information-intensive bank lending and access lenders directly with corporate bond funding. In the 19th century, railroads were among the first large-scale enterprises in the United States to borrow directly with long-term corporate bonds. Railroads were able to utilise direct bond finance because they had a relatively transparent public image and a physical capital structure (railroad tracks and cars) that was relatively easy to monitor. Hence, railroads reduced their external finance premium by borrowing directly from the public. More generally, firms with a good public image, which produce a product that is widely used and easily monitored, have an incentive to bypass bank loans in order to exploit their transparency to lower their external finance premium.

Nevertheless, firms with direct access to the bond market continue to fund themselves in part with bank loans because banks provide a number of other financial services. These include: backstop financing with a line of credit; access to debtor-in-possession borrowing in the event of bankruptcy; customised borrowing (as opposed to standardised debt instruments used to access the credit market directly); and confidential borrowing, for instance when secrecy is needed for a borrower to appropriate the returns to investment financed with external funds.

In addition, a firm that chooses to access the credit market directly with bond finance also needs investment banking services. For instance, bonds sold by railroads in the 19th century United States were underwritten by elite Wall Street investment banks. Investment bank services include: an endorsement of the creditworthiness of corporate bonds; the pricing and sale of initial public offerings; the marketing of bonds overseas; a market in which the corporate bonds can be bought and sold; the leadership of a creditor committee in the event of a default; and the leadership of equity receiverships in judicial reorganisations during bankruptcy.

Too much reliance on bank loans or direct bond finance, however, exposes a firm to excessive risk of bankruptcy in the event of default. Hence, in developed economies firms have come to rely on a portfolio of external finance that usually includes substantial equity, as well as bond and bank loan finance. Equity finance gives a firm financial flexibility in the choice of the payment of dividends -

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flexibility that a firm can utilise to avoid default on bank loans or bonds. Outside equity, however, involves a cost of its own: too much of it blunts the incentive of managers to run a firm efficiently because external ownership allows managers to retain only a fraction of every dollar of value they create for the firm above revenue needed to pay off fixed obligations, which include debt and fixed salaries. Therefore, equity, bank loans and bonds generally coexist in the capital structure of modern corporate borrowers.

A market for direct debt also improves the incentive for banks to remain efficient and to innovate. A market for short- and long-term corporate debt disciplines and ultimately strengthens the banking system by providing competition for information-intensive bank loans at the margin. Banks have an incentive to be efficient in order to retain clients with actual or potential access to direct finance. A market for direct debt encourages banks to innovate because products initially created and customised by banks often have the potential to be commoditised, standardised and moved from banks to capital markets, which provide them at lower overhead cost. In the United States, bank loans and bankers' acceptances predated commercial paper and other direct money market debt. More recently, banks helped to create money market mutual funds, futures markets, junk bonds and asset-backed securities, all of which then moved outside the banking system to a large degree. By encouraging innovation, competition among banks and non-bank financial markets helps to improve the distribution of financial risk in the economy and lower the cost of external finance.

The growth of non-bank debt finance also improves the resilience of the financial system. Chairman Greenspan has emphasised this "spare tyre" role of the capital market - direct, non-bank bond finance - in cushioning the effect of financial distress on the macroeconomy. In a well-known 1999 speech, Chairman Greenspan emphasised that "[m]ultiple alternatives to transform an economy's savings into capital investment provide back-up facilities for credit flows should primary intermediation fail".[2] He noted, for instance, that the 1990 collapse of real estate collateral that hurt bank lending in the United States did not interrupt mortgage lending much because of the deep market in mortgage-backed securities. He also pointed out that the protracted banking crisis in Japan hurt the macroeconomy more than might have been the case if non-bank capital markets had been widely developed in Japan.

I would like to conclude by emphasising that long-term, local currency corporate bonds can efficiently hedge real future retirement, pension, life insurance and entitlement commitments. However, such bonds can do so only if the purchasing power of the currency is preserved over long periods of time. A credible domestic monetary policy is necessary for long-term, local currency corporate bonds to be demanded domestically as a hedge against long-term commitments. The demand for local currency corporate debt abroad also depends in large part on confidence in a stable purchasing power of local currency. In the 19th century, US railroad bonds were marketed successfully in Great Britain in large part because the United States was on a gold standard.

On the other hand, the public is greatly disadvantaged if it must hold retirement savings in short-term bank deposits. Households forced to save in bank deposits earn relatively low interest on average, and they are exposed to the risk that short-term interest rates might fall to very low levels for long periods of time. So, bank deposits are a poor hedge against retirement needs. If the government stabilises the purchasing power of the currency credibly, and households can hold their savings in a diversified portfolio of high-grade, local currency, long-term corporate bonds, they can earn a higher stable real return with relatively little credit risk.

[2] Greenspan, A (1999): "Do efficient financial markets mitigate financial crises?", speech at the 1999 Financial Markets Conference of the Federal Reserve Bank of Atlanta, Sea Island, Georgia, 19 October.

Developing multiple layers of financial intermediation: the complementary roles of corporate bond markets and banks

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"…[R]ecent crises have underscored certain financial structure vulnerabilities that are not readily assuaged in the short-run but, nonetheless, will be increasingly important to address in any endeavour to build formidable buffers against financial distress. Among the most important, in my judgment, *is the development of alternatives* that enable financial systems under stress to maintain an adequate degree of financial intermediation even should their main source of intermediation, whether banks or capital markets, freeze up in a crisis." [Italics are mine.]

"Before the crisis broke there was little reason to question the three decades of phenomenally solid East Asian economic growth, largely financed through the banking system, so long as rapidly expanding bank credit outpaced lagging losses and hence depressed the ratio of non-performing loans to total bank assets. The failure to have alternative forms of intermediation was of little consequence so long as the primary means worked. That is, the lack of a spare tyre is of no concern if you do not get a flat. East Asia had no spare tyres. The United States did in 1990 and again in 1998."[2]

1. Introduction

In Asian economies, banks have traditionally been the main institutions performing the vital role of financial intermediation. Thanks to various government initiatives, banks have established extensive branch networks to tap savings from remote corners of their economies, and extend loans to both the public and private sectors. Indeed, the culture of bank financing is fairly deep-rooted for corporate borrowers in many Asian countries. However, relying almost exclusively on this single source for access to capital and intermediation can be problematic when there is a financial crisis that dries that source up. The East Asian crisis of 1997 was just such an event.

The ability of the corporate bond market to pick up the slack when the banking sector experienced problems in the United States back in 1990 is a constructive and shining example of a situation in which the corporate bond market provided a much needed safety valve, when the banking sector was vulnerable. Likewise, prudent measures on the part of central banks, along with the actions taken by commercial banks, helped to offset the potentially debilitating influence of disrupted corporate bond markets in the 1998 crisis, following the Russian default and Long-Term Capital Management (LTCM) failure. The growth of high-yield bond markets and recent developments in credit derivatives markets in the United States also point to the importance of the multiple layers of access to credit, managing and transferring credit risk.

The positive US experience could serve as a useful baseline model for Asian economies in the process of building their own complements to solely (or largely) bank-based financial intermediation. As the Asian economies expand, and become more open to trade and financial flows, it will be increasingly essential that they have the infrastructure of multiple layers of financial intermediation in which commercial banks and corporate bond markets thrive and provide healthy competition to each

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[2] See Greenspan (2000).

other in the provision of credit and intermediation. They will also need more market-based management of credit risk. Making all this happen will require careful planning and sustained effort. The rest of this paper is devoted to a discussion of the steps necessary to pave the way for this process.

Section 2 of the paper articulates the areas where developmental efforts have to be concentrated in order to promote a public corporate bond market. While there are many areas that require simultaneous attention from policymakers and regulators, the paper will dwell on two important dimensions: a) legal frameworks, bankruptcy reform and investor protection (Section 3); and b) transparency of secondary markets in corporate debt (Section 4). Section 5 briefly discusses some of the issues identified in Section 2 (but not discussed in Sections 3 or 4) and draws conclusions.

2. Developing corporate bond markets

Development of multiple and complementary institutions for performing financial intermediation takes time and effort and cannot be accomplished in the short run. Significant efforts have already been undertaken in Asian economies in this regard, as the other chapters in this volume have abundantly illustrated.

The supply of and demand for credit and liquidity is at the heart of financial intermediation. In order to develop an alternative to intermediation driven primarily by banks, it is necessary to simultaneously make progress on a number of fronts:

- Free flow of capital and market-based interest rates
- Legal frameworks, bankruptcy reform and investor protection[3]
- Corporate governance standards to mitigate wasteful agency costs, and control premiums to reduce the cost of corporate borrowing
- Prudent regulatory frameworks that promote self-regulation, but establish enforcement of disclosure-based rules
- Provision of stable and reliable government benchmark yield curves even when governments are running a surplus (the Australian and the US experiences are illustrative of the benefits of this policy).
- Developing transparent and efficient primary and secondary markets (the recent initiative by the Securities and Exchange Commission (SEC) in the United States to create TRACE (Trade Reporting and Compliance Engine) is worth studying in this connection).
- Broadening the investor base through the creation of bond funds[4]
- Open access to currency and credit markets
- Provision of market mechanisms for credit risk transfer, such as credit default swaps, collateralised debt obligations, etc

Various chapters in this volume have focused on each of these topics. I will therefore restrict my attention in this paper to issues of bankruptcy reform and market transparency.

[3] See La Porta et al (1997, 1998 and 2002)

[4] See Ma and Remolona (2005) and Reserve Bank of Australia Bulletin (2003).

3. Legal frameworks, bankruptcy reform and investor protection

The respect for law, the nature of the legal code and the ability to enforce contracts determine the willingness of lenders and borrowers to participate in credit markets. In Table 1, which is based on studies by the World Bank and International Finance Corporation, I provide a comparison of some Asian economies with the more mature markets. The legal rights index in the second column measures the degree to which collateral and bankruptcy laws are designed to expand access to credit, as well as access to collateral for secured lenders. Higher scores reflect better access to both credit and collateral.

While Korea has made progress on all dimensions, other Asian countries appear to have some serious structural deficiencies. Contract enforcement delays are rather high in India, Thailand, Malaysia and China. As a percentage of debt, enforcement costs are very high in India, China and Malaysia. When enforcement is a problem, banks may rely on short-term debt (as argued in Diamond (2004)), which may pose significant asset-liability mismatch problems for corporate borrowers in Asian economies. In order to reduce the maturity mismatch problem and improve the debt capacity of the corporate sector, reform in the areas of legal framework, bankruptcy code/judiciary reform and corporate governance must be undertaken.

Table 1

Country	Borrowers' and lenders' legal rights index	Contract enforcement time (days)	Contract enforcement cost (as percentage of debt)	Length of bankruptcy process (years)	Bankruptcy costs (as percentage of estate)
China	2	241	25.5	2.4	18
India	4	425	43.1	10	8
Korea	6	75	5.4	1.5	4
Malaysia	8	300	20.2	2.3	18
Thailand	5	390	13.4	2.6	38
Asia	5	286	22	4	17
Mature markets	7	165	9	2	7

Source: IMF (2005): Chapter IV on "Recent Trends in Corporate Finance", *Global Financial Stability Report*, April.

Likewise, the length of the bankruptcy process is ten years in India, and bankruptcy costs (as a percentage of estate) range from 38% in Thailand to 4% in Korea. On average, the cost of bankruptcy stands at 17% in Asia, which compares with an average of 7% for more mature economies.

The ex ante cost of borrowing will reflect these costs: rational lenders will charge a premium to participate in markets characterised by poor contract enforcement and tardy bankruptcy procedures. At the limit, the debt capacity of the economy will be adversely affected by these deficiencies. Several emerging economies in Asia, including China and India, have undertaken reform of their bankruptcy codes. In discussing what might be important features of a bankruptcy code, Hart (1999) has identified the following aspects. First, the code should punish borrowers for not honouring contractual commitments, which is accomplished through suspension of dividends and enforcement of absolute priority when a firm files for bankruptcy. Second, the code should deliver efficient ex post outcomes, ie the total value of all claims should be maximised. This is difficult in practice as secured creditors may have a liquidation bias, and existing management may have a continuation bias. Third, the code should provide some value to borrowers in the process of financial distress resolution. Specifically, the process should permit illiquid but potentially solvent corporate borrowers to have a reasonable shot at reorganisation rather than being relegated to liquidation. Debt renegotiation, partial forgiveness of prior debt and exchange offers are very much in this spirit. It is also important to encourage the development of mechanisms such as Debtor in Possession (DIP) financing for borrowers already in financial distress. DIP financiers provide liquidity to distressed firms precisely when they are illiquid. In

order to encourage the development of such mechanisms, a bankruptcy code should provide supra-priority rights to such lenders.

In turning to investor protection, we must evaluate how well Asian economies compare to G-3 countries, which themselves are not immune to corporate fraud, as cases such as Worldcom and Enron have demonstrated. I now present some estimates on how well Asian economies have fared on accounting standards, rule of law, judicial efficiency, contract repudiation and expropriation risk. The source for this information (presented in Table 2 below) is the International Institute for Corporate Governance and the IMF. Low scores along each dimension reflect poor standards, and high scores indicate tight standards. Table 2 shows that Asian countries have some way to go in persuading investors that contract repudiation and expropriation risk are not significant. Judicial efficiency is still a major problem, especially in Thailand.

Table 2

Country	Accounting standards	Rule of law	Judicial efficiency	Contract repudiation	Expropriation risk
India	5.7	4.2	8	6.1	7.8
Korea	6.2	5.4	6	8.6	8.3
Malaysia	7.6	6.8	9	7.4	8
Thailand	6.4	6.3	3.3	7.6	7.4
Asia	6.5	5.7	6.6	7.4	7.9
G-3	6.6	9.4	9.7	9.5	9.9

Source: IMF (2005), Chapter IV on "Recent Trends in Corporate Finance", *Global Financial Stability Report*, April.

Note that the G-3 countries have a score of 9.5 or better on all dimensions with the exception of accounting standards. In the area of rule of law, Asian countries fare poorly in comparison to G-3 countries.

Large infrastructure investments, such as the building of highways, ports, power plants, etc, provide an ideal environment for the development of bond markets. This has been especially true in China, and there is great potential in India. However, in order to ensure that investors view corporate and public sector bonds as a core part of their savings portfolios, it is imperative that sweeping legal and judicial reforms are introduced to ensure swift and fair enforcement of contracts, adherence to the rule of law, and efficient financial distress resolution. As seen in the table above, contract repudiation and threat of expropriation are particular areas that require improvement.

4. Developing efficient primary and secondary markets

Corporate debt obligations vary along a dizzying array of dimensions: credit quality (as reflected in agency ratings); market capitalisation (with issue sizes varying from a few million dollars to more than $1-2 billion); contractual provisions (callability, puttability, convertibility and the like); seniority (senior or subordinated); security (secured or unsecured), etc. All this means that corporate bonds (unlike government debt in many economies) are not commodities that lend themselves to trading arrangements that work well for standardised contracts such as futures.

The presence of significant informational asymmetry between corporate borrowers and lenders also means that the primary market where corporate borrowers raise capital must reflect the diversity of corporate borrowers. For highly rated corporate borrowers who over a period of time have established their credentials through repeated borrowings and a track record of timely repayments, corporate bond borrowing may actually offer an opportunity to disintermediate. Specifically, borrowers can bypass the banking sector and tap directly into savings, thereby reducing the cost of bank intermediation. For established big corporate borrowers, public bond markets with registered bond issues may be a very desirable alternative. For other corporate borrowers, bank credit may continue to be the dominant

alternative: even for non-investment grade borrowers, the continued resilience of the high-yield bond market in the United States over the last three decades is a reminder that public bond markets may prove to be a valuable alternative at lower ends of the credit spectrum. Indeed, bank credit often requires collateral, seniority and onerous covenants. At times when demand from investors is strong, corporate borrowers are able to replace bank debt with public bond issues, which often have less onerous covenants, and may be junior and unsecured. There are other times when access to high-yield markets can be costly (due to reduced demand from investors and an increased need for monitoring of the borrowers by lenders), and corporate borrowers prefer to take bank loans. These substitution possibilities require the development of a transparent, liquid and, eventually, an efficient bond market.

In order to ensure broad participation by both retail and institutional investors, it is essential to develop a transparent corporate bond market. Transparency of a market can be defined as "the widespread availability of information relative to current opportunities to trade and recently completed trades."[5] There are two concepts of transparency: pre-trade and post-trade transparency. Pre-trade transparency relates to information about price and volume opportunities in the markets. It includes: a) firm (if not live) bid and offer prices and the quantities market-makers are willing to transact at those prices ; b) in multiple dealer markets (as in corporate bonds), the consolidation or aggregation of bid and offer prices as well as the quantities associated with those prices across all market-makers (or as many market-makers as possible); and c) the existence of effective consolidation mechanisms that serve to reduce the search costs to potential investors by providing them with a complete picture of trading opportunities with various dealers. GOVPX[6] and other consolidation mechanisms provide this kind of transparency in the US fixed income markets.

Post-trade information includes the prices and volume of all individual transactions that have actually taken place in the market at the time a potential investor is contemplating a trade. Post-trade transparency of a market determines the information that investors will have about most recent trades, helping them to evaluate the quality of execution of trades relative to recently concluded trades. Once again, the existence of effective consolidation mechanisms serves to reduce the search costs to potential investors by providing them with a complete picture of recently completed buy and sell orders with various dealers, as well as the quality of execution.

In a market where the pre- and post-trade transparency is poor, acquiring information about the prevailing buying or selling interest or quality of recently completed executions is costly and time-consuming. As a result, prices will not efficiently reflect all the buying and selling interests present in the market, which, in turn, can lead to poor trade execution: investors may receive or pay prices that are not necessarily the best available in the market. Extensive trading activity in the secondary markets (expressed in numbers of trades and notional amounts), narrow bid-offer spreads and willingness to trade greater quantities (at given bids or offers) provide valuable signals about the true value of the security in question and make the market more efficient. A market that has a) poor transparency, b) poor trading activity and c) wide bid-offer spreads is one in which relevant pricing information is not readily available, and price formation in such a market is likely to be inefficient.

For corporate bonds, relevant information about pricing includes the following variables: a) the likelihood that the issuer might default; b) the amount that the bond investor might lose in the event of default (loss given default); c) the market value of and accessibility to any pool of assets that serve as collateral backing the bond issue; and d) macroeconomic circumstances (levels of interest rates, inflationary expectations, expansion or recession, etc). The last factor may have implications for future earnings and the liquidation value of assets in the event of default. The presence of credit default swap markets and the ability to calculate expected default frequencies using equity prices have helped to improve the informational efficiency of some sectors of corporate bond markets where such contracts are actively traded.

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[5] International Organization of Securities Commissions: IOSCO Objectives and Principles of Securities Regulation. See http://www.iosco.org/pubdocs/pdf/IOSCOPD82-English.pdf.

[6] GOVPX is the leading source of 24-hour, worldwide distribution of real-time treasury market prices and data based on the global trading activity of the primary dealers through the inter-dealer brokers for all U.S. treasury securities, repurchase agreements and swaps.

5. Conclusion

This paper's focus has been on the need to make structural reforms in the areas of bankruptcy codes, legal contract enforcement, corporate governance and investor protection. It has also examined issues relating to improving the development of corporate bond markets, with particular emphasis on the importance of transparency and efficient price discovery. In conclusion, I want to draw attention to another issue that must be addressed: the existence of a reliable and liquid government benchmark yield curve. The government curve signals to the corporate borrower the cost of risk-free borrowing at different maturities. This benchmark risk-free rate of borrowing at each maturity reduces the problem of figuring out the cost of corporate borrowing to the task of determining the spread over the risk-free borrowing rate. This spread is the compensation that potential lenders demand for bearing a) increased credit risk; b) increased liquidity risk; c) more complex contractual risks (callability, for example); and d) any tax differences that may exist.

In periods of deficits, most governments borrow, so the availability of an active government benchmark is not usually a big issue. However, when a government faces an economy that produces surpluses year after year, it is more difficult to justify borrowing. The recent decision by the Australian government and the Reserve Bank of Australia to consolidate the benchmarks and continue to borrow despite the surplus generated by the Australian economy is a case in point.

Is it welfare-improving for a government to provide the benchmark for the rest of the credit markets? Government bonds play a special role in the provision of liquidity to the private sector that cannot be easily replicated by other private sector instruments.[7] They provide the role of "safe havens" in periods of crisis, and as such command an ex ante premium, as investors are willing to pay a higher price to insure themselves against future liquidity crises. In addition, the incremental information value of government bonds is greater as the term of the bonds increases. All this implies that government bonds may have a special value to investors in an economy and may command a premium as a consequence. Thus, by offering such bonds, governments may be able to borrow more cheaply, and, at the same time, provide an important "price discovery" mechanism for corporate borrowers.

[7] See Diamond (1965) and Woodford (1990), for example.

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Corporate bond market microstructure and transparency - the US experience

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Many countries in Asia and the Pacific Rim have rapidly developing domestic corporate bond markets. The long-run viability of these markets depends in part on whether the secondary markets facilitate efficient capital markets. The US corporate bond market has been allowed to set its own structure, but recently regulators have promoted post-trade transparency. This article presents the following lessons from the recent history of the microstructure of the US corporate bond market to help inform other regulators considering transparency:

- Regulatory intervention is sometimes necessary for markets to be transparent.
- Transparency has little effect without market incentives.
- Post-trade transparency benefits both large and small investors by lowering transaction costs.
- Transparency results in market insights, some of which are not consistent with anecdotal evidence.
- The trade reporting that accompanies post-trade transparency provides regulators such as the National Association of Securities Dealers (NASD) and the Securities and Exchange Commission (SEC) with tools to regulate more effectively.

The next section provides a discussion of the structure of the US corporate bond market, and the sections that follow explain each of the lessons above in more detail.

Structure of the US corporate bond market

Most US corporate bond trading occurs in an over-the-counter (OTC) dealer market. Broker-dealers execute the majority of customer transactions in a principal capacity, and trade among themselves in the inter-dealer market to obtain securities desired by customers or to manage their inventories.

The US corporate bond market does not have a centralised inter-dealer quotation system, and, therefore, cannot be described as either a quote-driven dealer market or an order-driven auction market. In the institutional segment, non-binding indications of interest are distributed to preferred clients, with trading conducted primarily through telephone and e-mail negotiations. Retail customer trading is also conducted mainly over the phone.[2] Recently, however, the trend in both segments has been to move towards electronic negotiation and execution.[3]

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[2] See "US Securities and Exchange Commission Report to the Congress: Impact of Technology on Securities Markets", 1996.

[3] See "E-Commerce in the Fixed-Income Markets: The 2005 Review of Electronic Transaction Systems" by the Bond Market Association (BMA), December 2005. The survey asked about trends in electronic trading volume, but does not separate out fixed income types or ask about the portion of trading conducted electronically.

The market has evolved into this form with little regulatory intervention. According to Biais and Green (2005), the New York Stock Exchange (NYSE) dominated the market for corporate and municipal bonds until trading migrated to the OTC market in the 1940s. Biais and Green (2005) do not attribute the migration to regulatory changes, but, rather, to the growth of institutional trading. Today, the NYSE's Automated Bond System (ABS), an electronic limit order book, lists less than 5% of US dollar-denominated corporate bonds and attracts about 1% of total trades reported. The NYSE is currently seeking to increase its market share by requesting regulatory approval that would permit broker-dealers to trade the bonds of its listed companies without those bonds being registered with the SEC.[4]

Transparency arising from regulatory intervention

By 1998, problems surfaced that the US corporate bond market could not correct through competition.[5] Furthermore, by mid-1998, competitive forces had failed to embrace many of the technological innovations in trading that had swept other secondary markets in the United States.[6] Given that the dealer market structure competes on relationships, it is not surprising that regulatory intervention was needed to add transparency to the US corporate bond market.[7] In fact, transparency improvements in dealer markets located in the United States have often come from regulatory intervention or encouragement. For example, several transparency improvements in the Nasdaq stock market (traditionally an OTC dealer market) were the result of regulatory interventions originally opposed by dealers.[8]

In response to a request from SEC Chairman Arthur Levitt, the NASD made prices transparent in the OTC portion of the corporate bond market through the Trade Reporting and Compliance Engine (TRACE).[9] TRACE covers the reporting and transparency of OTC trades in corporate bonds. It started operating on 1 July 2002 and was implemented in phases.

Prior to TRACE, the Fixed Income Reporting System (FIPS) provided a small degree of transparency in high-yield corporate bonds. FIPS operated from 1994 to 2002 and was the result of a regulatory intervention motivated in part by a need to better monitor the high-yield debt markets for insider trading.[10] While every trade in non-convertible long-term high-yield bonds was reported to FIPS, the transparency provided by FIPS was limited to summaries of transactions and one-sided quotations in 50 bonds at a time. Unfortunately, FIPS was not "up to par".[11]

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4 See SEC Release 34-51999, File no SR-NYSE-2004-69, 8 July 2005.

5 See Arthur Levitt, "The Importance of Transparency in America's Debt Market", Remarks by SEC Chairman Arthur Levitt at the Media Studies Center, NY, NY, 9 September 1998.

6 See Paula Dwyer, "Never Cross a Bond Dealer", *Business Week*, 9 March 1998; and Testimony of Larry E. Fondren before the US House of Representatives Subcommittee on Finance and Hazardous Materials, Hearing on Electronic Commerce: Investing Online, 18 June 1998.

7 The BMA created a system to promote transparency after the NASD agreed with Chairman Levitt to promote transparency, and subsequent to a hearing on transparency by the US House of Representatives Subcommittee on Finance and Hazardous Materials in September 1998. However, the BMA's "market-driven" initiative fell short of the transparency goals outlined by Chairman Levitt in his 9 September 1998 speech.

8 See footnote 82 from Securities Exchange Act Release no 34-32019, SEC File no SR-NASD-92-45, 19 March 1993. Also, see Madhavan (1995) and Gong (2005) for theoretical explanations and costs of a lack of voluntary transparency in dealer markets.

9 See also "Debt Market Review" conducted by the Division of Market Regulation and included in the record for the US House of Representatives Subcommittee on Finance and Hazardous Materials Hearing on Improving Price Competition for Mutual Funds and Bonds, 29 September 1998; and Securities Exchange Act Release no 34-43873, File no SR-NASD-99-65, 23 January 2001.

10 See Securities Exchange Act Release no 34-32019, File no SR-NASD-92-45, 19 March 1993; the letter from US SEC Chairman Richard C Breeden to the Honourable Donald W Reigle, Jr, Chairman of the Committee on Banking, Housing and Urban Affairs of the US Senate; and "A Report by the Division of Market Regulation on Transparency in the Market for High-Yield Debt Securities", 6 September 1991.

11 See Arthur Levitt, "The Importance of Transparency in America's Debt Market", remarks by SEC Chairman Arthur Levitt at the Media Studies Center, NY, NY, 9 September 1998.

When TRACE replaced FIPS, the pre-trade transparency from the quotations was eliminated and the post-trade transparency from transactions was enhanced and expanded. Since July 2002, all trades in TRACE-eligible bonds have been required to be reported to the NASD. Originally, dealers had 75 minutes to report the trade, but now have only 15 minutes. Because of industry concerns, the NASD rolled out transparency gradually. As of the most recent phase-in on 7 February 2005, 99% of the TRACE trades (95% of the par value) become transparent as soon as they are reported by dealers.[12] If the NASD proposal of 28 October 2005 is approved, all TRACE trades will be transparent immediately upon receipt of the trade report, which will mean that TRACE has been fully implemented.[13]

As mentioned earlier, TRACE provides only "post-trade" transparency, meaning that there are no "pre-trade" quotations. While the NYSE provides some "pre-trade" transparency from displayed customer limit orders, the lack of listings and activity limit the effect of this transparency. Furthermore, neither TRACE nor the NYSE explicitly reveals the identity of market participants, which means that dealers can maintain anonymity within the TRACE and NYSE transparency.[14]

Note that TRACE does not encompass all of the securities that might be called corporate debt. It includes straight and convertible, long- and medium-term bonds, with both high-yield and investment grade ratings. However, while trading in bonds issued under Rule 144A must be reported to the NASD, such transactions are specifically excluded from being disseminated.[15] Trading in asset-backed securities and commercial paper does not need to be reported to the NASD, and, therefore, trading in these instruments is not transparent.

Note as well that increased transparency will not necessarily alter the structure of the corporate bond market, nor will it force the bond market into an equity market model. If transparency alters the market structure for US corporate bonds, it will be because transparency results in subsequent market initiatives.

Subsequent market initiatives

Even if transparency is imposed by regulators, competitive forces are still needed to achieve its full benefits. TRACE transparency, for example, can be likened to regulators flipping on a switch to make more information available. However, regulators cannot force all market participants to use the information. Instead, the ultimate dissemination of the information to dealers, institutions, retail investors and others depends on market forces. Regulators can attempt to accelerate the changes through investor education, but, ultimately, transparency will be limited if there is no demand for the information.

Theoretically, transparency promotes greater competition, which might ultimately lead to a new market structure - but only if it is more efficient than the current market structure. We have no evidence of a material change in the fundamental structure of the US corporate bond market since the introduction of TRACE over three years ago.

However, transparency is driving innovation in the marketplace, particularly in the creation of new products and services. Since the start of TRACE, the American Stock Exchange has listed two exchange-traded funds (ETFs) consisting of investment grade bonds.[16] The CBOE has also proposed

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[12] After-market trades in bonds rated BBB or lower and large transactions in less active high-yield bonds are transparent with a delay of up to 10 days. Furthermore, trade size is truncated for transactions of USD 1 million or more in high-yield bonds and USD 5 million or more in investment grade bonds.

[13] See Securities Exchange Act Release no 34-52700, SEC File no SR-NASD-2005-120, 28 October 2005.

[14] Most OTC trading is conducted over the phone and, therefore, not anonymous.

[15] Rule 144A issues are private issues that can be traded only by Qualified Institutional Buyers (QIBs).

[16] LQD (iShares GS $ InvesTop™ Corporate Bond Fund) and AGG (iShares Lehman Aggregate Bond Fund).

listing options on corporate bonds.[17] Some brokers compete on providing TRACE prices to clients and on conducting agency trades, instead of internalising, thus disclosing the full remuneration to investors.[18] Finally, vendors such as Bloomberg, Bond Desk and Market Access compete to provide clients with value added analysis of TRACE data. None of these initiatives would have come about without transparency.

Evidence on the effects of the introduction of transparency

The introduction of TRACE has sparked at least three empirical studies on the effect of transparency on the corporate bond market. Edwards et al (2005) analyse whether a higher degree of transparency is associated with a reduction in transaction costs paid by investors. Bessembinder et al (2005) examine how institutional transaction costs change around TRACE initiation and whether opaque bonds are affected by the transparency of similar bonds. Finally, Goldstein et al (2005) study one phase-in of transparency in more depth than the other two studies.

All three of these studies find that transaction costs are lower for investors when bond transaction information is transparent. Furthermore, as indicated by the transaction size results of Edwards et al (2005) and the institutional results of Bessembinder et al (2005), transaction costs decline for both retail and institutional investors.[19] Edwards et al (2005) compare the transaction costs of relatively transparent bonds to those of more opaque bonds. The transparent bonds have lower transaction costs than the opaque bonds for all transaction sizes. Edwards et al (2005) further confirm this result in cross-sectional regressions that control for factors other than transparency. As documented and explained by Bernhardt et al (2005), the finding is a dealer market phenomenon seen also in equity markets.

Goldstein et al (2005) suggest that the effects might not be uniform for bonds with different levels of liquidity, but none of the studies shows that transparency dried up the liquidity of any segment of the market. Moreover, because these studies control for bond characteristics, macroeconomic changes and market-wide volatility, all of which could alter transaction costs, the results are attributed to transparency.

The finding of lower transaction costs does not lead to the conclusion that social welfare improved - in part because the benefits to investors and issuers can be offset by lower dealer profits. Indeed, anecdotal claims by some market participants assert that not everyone is better off with TRACE. In particular, some dealers contend that their profits have suffered as a result of transparency.[20] However, at this point I am not aware of any empirical evidence supporting these claims. In fact, lower transaction costs might induce more trading, which could increase aggregate dealer profits.[21] Therefore, more empirical evidence is needed before we can draw conclusions on net social welfare, or on the optimal level of transparency in corporate bond markets.

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[17] See SEC File no SR-CBOE-2003-41, 24 August 2005.

[18] Internalising refers to dealers trading out of inventory. In an agency trade, customers trade with other customers. Agency trades require the disclosure of all costs, while internalising does not. See, for example, "Fidelity Investments Reduces Cost of On-line Bond Trades", a Fidelity Investments press release, 11 November 2004; and Jane J Kim, "Growing Investor Demand Spurs More Choices for Buying Bonds", *Wall Street Journal*, 24 May 2005.

[19] Casey and Lannoo (2005) claim that institutional investors may have been harmed by the transparency from TRACE, but provide no evidence to support this claim.

[20] See, for example, "TRACE Makes Life Tough for US Junk Traders", *Investment Dealers Digest*, 7 November 2005; and the comment letter from the BMA in SEC File no SR-NASD-2005-120, 29 November 2005.

[21] While greater transparency is attributed with spurring more investors into the equity markets, it is too soon to tell if it will have the same effect in bond markets.

Market insights from the introduction of transparency

Beyond its direct market effects, transparency gives information to academics, regulators and market participants that leads to new market insights, which, in turn, have direct implications for regulatory surveillance and policy decisions. For obvious reasons, regulators who know more and better understand their markets can regulate more wisely.

A regulator should not rely on anecdotal evidence alone if obtaining empirical data is possible and practical. The problems with anecdotal evidence can be illustrated by the famous parable of the blind men and the elephant.[22] Several blind men each describe an elephant based on their own experience, but each one has a different account of what the elephant is and none of them provides a good description of the elephant. The blind men are not lying, nor are they trying to mislead others; rather, they just do not have the perspective necessary to give an adequate description.

A fragmented and opaque market (such as the US corporate bond market prior to TRACE) is likely to suffer from this problem because market participants see very little of the overall activity. A comprehensive dataset of transactions can provide regulators, academics and market participants valuable information they cannot get from anecdotal evidence alone.

The SEC and the NASD have learned a great deal from TRACE data.[23] In testimony before the US Senate Committee, Doug Shulman of the NASD declared that the "NASD now has a better view into the US corporate bond market… we have learned that the corporate bond marketplace is far more active than originally anticipated". He further stated, "[c]ontrary to popular belief… the bond market has a substantial retail participation".[24] Clearly, this information has direct implications for how the corporate bond market should be regulated.

Table 1 shows trade sizes and volumes reported to TRACE and the NYSE in 2003 and 2004. Retail-size trades between dealers and customers are quite common. In fact, while the average trade size is 788 bonds, the median is only 32. This means that a few trades are very large, but the majority of trades are small odd lots. The trades on the NYSE are almost all retail-size, supporting anecdotal evidence that the NYSE is used primarily for odd lots. Institutional-size customer transactions account for most of the par value traded, but account for fewer trade reports than retail-size trades. Inter-dealer trade reports are less than half of the trades reported.

Investor protection from transparency

If transparency comes with a central reporting system such as TRACE, regulators can use it to enhance surveillance of the secondary markets. In particular, in conjunction with other surveillance and enforcement mechanisms, regulators can automate surveillance, allowing them to more efficiently target potentially harmful behaviour. This would allow regulators to apply their resources more effectively because they can focus on firms that appear to have the highest regulatory risk. Without central trade reporting, regulators can still conduct some trade inspections, but could conduct more exams of dealers who treat investors fairly. Hence, transparency enables regulators to conduct more risk-targeted reviews - and allows dealers without indications of high regulatory risk regarding bond transactions to expend fewer resources dealing with regulatory reviews. This could provide a competitive advantage to dealers who treat customers fairly.

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[22] This analogy can also be found in a speech by US SEC Commissioner Roel Campos on "Developing Bond Markets in APEC: Key Lessons from the US Experience", remarks before the ABAC/ADBI/PECC Conference, 21 June 2005.

[23] An example of pre-TRACE anecdotal evidence can be found in "The BMA to Release New Bond Market Regulatory Framework", by Lynn Stevens Hume, *Bond Buyer*, 5 June 1998.

[24] Testimony of Doug Shulman, NASD, before the US Senate Committee on Banking, Housing and Urban Affairs Hearing on an Overview of the Regulation of the Bond Markets, 17 June 2004.

Table 1

Empirical characteristics of 2003-04 US corporate bond trading

	TRACE			NYSE		
	Volume	**% of TRACE**	**% of total**	**Volume**	**% of NYSE**	**% of total**
Trade reports (thousands)						
All trades	15,015	100.0	99.0	151	100.0	1.0
Retail-size customers	5,876	39.1	97.5	148	98.2	2.5
Institutional-size customers	2,890	19.3	99.9	3	1.8	0.1
Inter-dealer	6,248	41.6	100.0	0	0.0	0.0
Listed bonds only	644	4.3	81.0	151	100.0	19.0
Par value (USD billions)						
All trades	11,833	100.0	99.97	3.6	100.0	0.03
Retail-size customers	145	1.2	98.0	3.0	83.3	2.0
Institutional-size customers	7,643	64.6	>99.99	0.6	16.7	<0.01
Inter-dealer	4,045	34.2	100.0	0.0	0.0	0.0
Listed bonds only	387	3.3	99.1	3.6	100.0	0.9

Note: The numbers in this table were estimated using transaction data for 2003 and 2004 from TRACE and the NYSE. We count each trade report as a separate observation. Because most inter-dealer trades are reported twice to TRACE, the inter-dealer volumes are actually slightly more than half of the values given in the table. We do not know the trade identities for NYSE trades, so we cannot accurately count the customer or inter-dealer trades. Instead, we count all NYSE trades as customer transactions. Retail-size customer trades are defined as being for 100 bonds or less. Institutional-size trades are for more than 100 bonds.

Source: Estimates using transaction data from TRACE and NYSE.

Investors can better monitor the quality of their executions with post-trade transparency, and mutual funds can better price their net asset values (NAVs). More accurate mutual fund NAVs may reduce the potential for market timing.[25] Investors can also more accurately compare mutual funds' past performance and risks, thus making mutual funds more attractive investments for retail investors and strengthening investor confidence in the process.

Casey and Lannoo (2005) assert that regulators should consider whether transaction surveillance is misguided, and recommend focusing instead on surveillance related to "principal protection". The main investor protection lesson from TRACE, however, is that the automation of manual surveillance can improve regulatory effectiveness - and not that trade surveillance should be a substitute for bankruptcy protection, issuer disclosure and the like.

Many types of surveillance, including insider trading, manipulation, fair price, best execution and suitability, are more efficient with a system of central trade reporting in place. Indeed, as mentioned above, FIPS was created in part to allow the NASD to include high-yield bonds in their automated insider trading surveillance.[26] In addition, regulators can use trade reporting systems to create

[25] Market timing occurs when investors trade in and out of mutual funds to take advantage of mispriced NAVs. For an example of problems that can be alleviated with transparency, see SEC press release number 2003-171, "SEC Levels Fraud Charges against Heartland Advisors, Inc., 12 Company Officials and Others for Misrepresentations, Mispricings, and Insider Trading in Two High Yield Bond Funds", 11 December 2003.

[26] See Securities Exchange Act Release no 34-32019, SEC File no SR-NASD-92-45, 19 March 1993.

computer programs that automatically screen trades for evidence of daisy chain, wash trade or marking manipulations.[27] Fair price surveillance can also be automated to identify dealers who tend to transact at prices that deviate from market prices.[28] Regulators can even automatically determine which firms show patterns consistent with putting investors in unsuitable investments.

Regulators who consider creating transaction reporting systems to facilitate surveillance by investors and regulators should carefully consider the following points. First, the ability to conduct meaningful surveillance can be severely hampered by poor information quality; therefore, regulators need to ensure the accurate and timely reporting of trades.[29] Second, to conduct the surveillance necessary to promote investor protection, transaction reporting and transparency must include customer transactions in addition to inter-dealer transactions.[30] Finally, when considering the costs of creating a trade reporting system, regulators should carefully examine whether automated surveillance is more cost-effective than manual surveillance.

Overall, the information from central trade reporting promotes more efficient regulatory reviews. Automated trade surveillance complements solid bankruptcy and civil laws, appropriate disclosure and governance regulations, as well as vigilant regulatory enforcement, to enhance investor confidence in the corporate bond markets and corporate bond mutual funds.

Summary

The recent increases in transparency in the US corporate bond market have provided many lessons that can aid regulators in other countries. Without dictating a specific market structure, regulators recently promoted post-trade transparency in the market, which resulted in lower transaction costs for both retail and institutional investors. In fact, Edwards et al (2005) assert that US investors would have saved over USD 1 billion in 2003 if transparency had been fully implemented sooner. Aside from the benefit to investors of lower transaction costs, the NASD has been able to create automated surveillance from the TRACE data that has streamlined the regulatory enforcement by the NASD and the SEC and should result in better investor protection.

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[27] Daisy chain manipulations involve needless inter-dealer transactions that purposefully serve to increase the price difference between customer buy and sell transactions. Wash trades are offsetting trades conducted to effect a price change or to create volume to alter average prices. Marking occurs when participants attempt to trade at a point in time to set a price used for other purposes such as security issuance or option exercise.

[28] Despite investor education initiatives, many retail investors may still not be aware that they can look up bond prices. As investors become accustomed to TRACE, fair price surveillance should become less necessary because investors monitor prices themselves. Automated surveillance will then detect fewer fair pricing problems.

[29] Timely reporting is important to investors monitoring their trades and mutual funds estimating NAVs.

[30] Some systems for reporting and transparency include inter-dealer trades only. These are not as useful for investor protection surveillance as systems that include customer trades.

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The role and function of rating agencies

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Introduction to Moody's

Moody's Investors Service is the oldest bond rating agency in the world. We have been rating bonds since 1909. Today, we have more than 1,000 analysts in 19 countries around the world. Our products include our familiar credit rating opinions (which are publicly disseminated through the press and made freely available on our website), as well as research and special reports about debt issuers and their industries, that reach more than 2,600 institutions and 16,500 users around the globe. Our ratings and analysis cover approximately 10,000 corporations and financial institutions, more than 20,000 municipal debt issuers, over 12,000 structured finance transactions, and 100 sovereign issuers.

Role and function of credit rating agencies

In Moody's view, the main and proper role of credit ratings is to help to enhance transparency and efficiency in debt capital markets by reducing information asymmetry between borrowers and lenders. We believe that this benefits the market by increasing investor confidence and allowing borrowers to have broader access to funds.

Moody's does this by publishing forward-looking rating opinions publicly, freely and broadly, and by publishing credit research about debt securities and their issuers. Our credit ratings are opinions about the future probability of full and timely repayment of debt obligations, such as bonds, notes and commercial paper. Our opinions are communicated to the market through a symbol system originated almost 100 years ago, which ranks relative credit risk on a scale with nine broad categories ranging from Aaa to C. Most of the broad rating categories are further refined with numerical indicators, from 1 to 3.

Attributes and uses of ratings

We believe there are several attributes of credit ratings that have caused their increased adoption and use by both regulators and market participants. First, ratings are widely and publicly available to the market at no cost. Second, ratings are independently formed and objective - indeed, rating agencies are motivated to act independently of each other, governments, issuers and their agents to reach the highest standards of ratings performance and accuracy. Third, and possibly most importantly, the performance of ratings has been measured - and they have consistently demonstrated predictive content. Overall, our ratings have done a good job in predicting the likely credit risk of debt securities and debt issuers.

Yet, ratings are not, nor should they be construed as, "pass-fail" assessments, performance guarantees, investment recommendations or statements of fact. If we were able to perfectly predict the

[1] Group Managing Director of Moody's Asia Pacific. This paper is based on a speech at the BIS/PBC Seminar on Developing Corporate Bond Markets in Asia in Kunming, China on 18 November 2005. It draws on previous speeches given by Raymond McDaniel, Jeanne Dering and John Rutherfurd of Moody's.

future, there would be two ratings: “will not default” and “will default”. Because the future is inherently uncertain, our ratings are necessarily limited to forecasting a probabilistic opinion of relative credit risk, with lower ratings indicating increasingly higher probabilities of default.

Evolving perceptions about the role and function of rating agencies

Demand for and use of credit ratings has grown tremendously over the past two decades. Advances in information technology, globalisation, economic integration, deregulation and asset securitisation are all well-chronicled drivers of this growth. Less frequently identified, but arguably no less important, are some basic attributes of ratings themselves - such as their acceptance as simple, widely understood symbols, their predictive content and their broad public availability, to name but three.

The demand for ratings also benefited from the favourable conditions that prevailed during much of the 1990s, and should continue to benefit from them in the coming years. They include, *inter alia*:

- low inflationary expectations and historically low interest rates in many developed economies;
- product innovation in the area of risk management and enactment of legislation enabling asset securitisation; and
- ongoing adoption of ratings by regulators seeking common risk benchmarks and financial system stability, and by the private sector for securities selection and portfolio composition guidelines.

Throughout this period of market expansion, Moody’s has invested significantly in analytical resources, attracting experienced, local professionals to address rapidly growing demand in domestic markets, including in Beijing, Hong Kong, Singapore, Sydney, Taipei and Tokyo. Moody’s now has more than 250 associates in the Asia-Pacific region.

We have listened to concerns about the existing system of checks and balances, as revealed by the repeated instances of malfeasance and corporate failure starting with the collapse of Enron. Moody’s has responded by embarking on significant initiatives to expand the range and depth of our analysis. We are applying greater analytical focus and committing additional resources to analysis and published research on the quality of accounting, the transparency of corporate disclosure, corporate governance issues and risk management/transfer issues related to credit.

We are strengthening teams of specialists who focus solely on these critical areas. We have also increased our scrutiny and reporting of issues such as short-term liquidity and rating triggers. One of the reasons for doing so is the growing complexity of corporate structures and financial reporting, requiring more specialised expertise. A suitable analogy might be the medical profession, in which general practitioners are increasingly supported by specialists with ever more sophisticated diagnostic tools. A second reason for this increased focus is that, while the vast majority of companies endeavour to report their financial and operating condition in good faith, publicly available information taken at face value has too often proved to be misleading.

In this context, we must add that, despite our enhancements, Moody’s is not, nor will it be, in a position to audit the work of auditors or systematically uncover cases of outright fraud. We do not have, and do not seek, powers to compel disclosure or enforce regulations.

Not surprisingly, this evolution in the uses of ratings has also increased the number of disparate users with competing needs and objectives. Some of those needs and objectives are not principally aligned with Moody’s objectives of market efficiency, transparency and investor protection. For example, issuers in many jurisdictions use ratings because many investors demand that they do so in order to access the capital markets. Understandably, issuers would like to receive the highest possible plausible ratings, as well as exercise greater control over the rating process. Large institutional investors, on the other hand, often use our ratings in their portfolio composition and governance guidelines. Generally, these investors prize stability in the ratings on securities they own and look with particular disfavour on major downgrades of names held in their portfolios or rating actions that are subsequently reversed.

These and other uses of ratings result in incongruent expectations, and, therefore, differing opinions about their performance, including the following:

- Rating agencies act too slowly to lower ratings on deteriorating credits;
- We act too quickly to lower ratings, restricting companies' access to capital and *causing* credits to deteriorate;
- We are compromised by revenue derived from issuers, and thus rate issuers too highly; and
- We are overly conservative and assign ratings that are too low.

Adding to this complexity are the government entities that have incorporated ratings into banking, insurance, securities and other financial institution regulations for the dual purpose of protecting investors and maintaining the financial stability of those institutions.

Some of these same regulatory bodies have, over the past year, engaged in a re-evaluation of our role in the market, which brings me to the second topic, the future for ratings, which I discuss below.

The future for ratings and oversight of rating agencies

We, like the regulators, acknowledge the important role ratings have come to play in the global capital markets. We are encouraged by their adoption by so many users, although we worry about the ability of a simple symbol system to satisfy increasingly diverse demands.

Although we cannot speak for other rating agencies, we can tell you that Moody's internal deliberations about oversight are based on the following facts:

- First, the value of ratings lies in their independence;
- Second, the role of ratings in financial market architecture has expanded materially in recent years;
- Third, Moody's and other rating agencies have benefited from many of the new applications for ratings, including in securities and financial regulations;
- Fourth, however, differing and often inconsistent expectations for ratings and the performance of ratings have emerged coincident with these new applications.

We therefore emphasise that oversight intended to bolster the "quality" of ratings will necessarily depend on, first, exactly what ratings are supposed to do and, second, who ratings are supposed to serve. As stated in the introduction, Moody's believes that the primary role of rating agencies and ratings is to support the normative objectives of securities laws: market efficiency, transparency and investor protection. Oversight should bolster, not impair, those intended roles and uses of ratings.

Although there are a number of examples I could cite to illustrate risks of impairment, I will briefly describe just two:

First, regulation seeking to control that which we believe is crucial to our credibility - that is, our independence and objectivity - raises concerns. We are uneasy with the prospect that improper influence over the rating process may become insinuated through regulation.

Specifically, if authorities do not favour independence and objectivity, at least for opinions concerning important constituencies - for example, a government bond rating in a jurisdiction where the government holds a low rating - regulation could become a means through which our opinions are controlled or silenced.

Second, regulation could prescribe conditions for liability that are inconsistent with the nature of ratings. One might well imagine that Moody's finds this troublesome, but perhaps without completely understanding why.

Moody's ratings provide predictive opinions on one characteristic of a corporate entity's financial enterprise - namely, its likelihood of repaying debt in a timely manner. *Inter alia*, our ratings are based primarily on analyses of companies' financial statements, as well as on assessments of management strategies and industry position.

Because of the nature of our analysis, it heavily relies on the quality, completeness and veracity of information available to us, whether such information is disclosed publicly or provided confidentially to Moody's analysts.

It is crucial that our ratings be reliable in their aggregate probability assessments of credit risk. Nevertheless, however desirable this may be, it is impossible for any single opinion to be "correct" or "incorrect" on a case-by-case basis. For example, while the vast majority of Baa-rated securities repay in a full and timely manner, certain Baa securities default. Neither result is "right" or "wrong" *per se*. However, an issuer with a Baa rating whose bonds do, in fact, repay will argue that its securities were rated too low, just as investors holding the rare defaulted Baa security will argue that the rating was too high.

To judge the quality of any opinion about the future, including a rating opinion, on such a basis is to place an inordinate burden on the fundamental nature of opinions. Furthermore, while our ratings have proven to be good predictors of creditworthiness, we do not intend, represent or scale our fees for them to act as performance guarantees. Accordingly, we strongly urge that oversight measures look to promote the trustworthiness of rating opinions in the aggregate, rather than on an unmeasurable, individual basis.

I should also acknowledge that there are areas where additional regulation would be reasonable, or even desirable, from Moody's vantage point. The area in which we believe regulation can have the greatest positive impact is the quality of information available in the market. We fully support the adoption of standards that promote better financial reporting and other financial disclosure from all entities that wish to participate in the capital markets.

We further believe that there is room to enhance the disclosure of our own rating processes. As you know, Moody's periodically publishes updates of our rating methodologies and practices. We have also codified core principles of our rating process to include the following:

- *Independence from commercial interests*. The level of ratings shall not be affected by a commercial relationship with an issuer.
- *No forbearance*. Moody's shall not forbear, or refrain from taking a rating action based on the potential effect of the action on Moody's or an issuer.
- *Controlling conflicts of interest*. Moody's does not make investment recommendations or offer any investment products. Moody's has in place procedures to control the latent conflicts of interest that exist because the issuers we rate provide most of our revenues.
- *Proper use of confidential information*. Moody's uses confidential information provided to it by issuers only in ratings, and will not otherwise use or disclose confidential information.
- *Judicious consideration*. Rating actions will reflect judicious consideration of all circumstances believed relevant to an issuer's creditworthiness.
- *Rating committees*. Rating decisions shall be made by committee, not by an individual, and so reflect the knowledge, experience and judgment of the organisation, rather than a single individual.

In addition to these core principles, we have published a series of documents related to the performance and attributes of our rating system, and the behaviour of our management and professional staff. We have consolidated our policies and procedures into a single public document - our Code of Conduct. We are not opposed to oversight that can confirm that these policies are being followed.

Of course, this raises the potential for falling short, publicly, of our own stated standards. However, it can also further validate the ratings industry and the legitimacy of our services, and allow us to contribute more substantially to market efficiency.

We would not be encouraged if additional oversight were to reach into the underlying methodology and tactical workings of the rating process, because we believe that innovation and competition between rating agencies better serves the market. To date, we have not heard of such intentions from authorities in established financial markets.

It is self-evident that greater rigour is being demanded of rating agencies, and greater transparency expected of us when explaining rating rationales today than was the case a few years ago, or possibly at any other time in our history. In this context, you can expect Moody's to continually re-evaluate our rating methodologies, and to learn from and respond to market dynamics. You can also expect Moody's analysts to be as thorough in their work as possible, inquiring more about accounting

practices, liquidity, corporate governance, rating triggers and other of the less visible factors in overall creditworthiness.

I would like to reiterate that Moody's track record shows that we provide a valuable service in contributing to the efficiency and transparency of capital markets. Moreover, Moody's acknowledges the important niche rating agencies occupy in the global financial markets, and we are not opposed to oversight and practices that bolster the perception of quality and legitimacy by which our efforts are judged. While the environment in which we currently offer our rating services raises the risk that we fall short, it also provides Moody's with a tremendous opportunity to succeed - to further prove our value to the market and contribute more substantially to its development.

Building effective markets in China

What is the best way to allocate China's vast savings pool? Around the world, capital is allocated either through government direction, banks or securities markets. There is certainly a global trend towards market, rather than directed, economies. In market economies, it is desirable to have both a strong banking system and strong securities markets.

In most countries, banks remain the chief institutions responsible for allocating savings. However, in the English-speaking world, where capital markets are probably most developed, bond markets are equally important. Bond markets are also growing in importance in Japan and Western Europe. One benefit of having a vibrant bond market alongside an efficient banking system is that during times of financial stress, if problems arise in the banking system, bond markets can help soften the impact on the economy.

For instance, during the banking sector problems of the 1980s in the US, bond markets provided a ready means for banks to shed non-performing assets. Such asset-shedding, combined with appropriate monetary policy, provided breathing space for the banks to restructure their balance sheets. In addition, during this period of bank portfolio consolidation, US borrowers were able to tap bond markets both for corporate and mortgage finance. Without a vibrant bond market, the economic consequences of banking sector problems would have been somewhat worse. Conversely, when stress has emerged in bond markets, banks have stepped in to provide indispensable support to the US and world economy, as they did in 1998 following the Russian crisis and collapse of the Long-Term Capital Management hedge fund.

A number of preconditions are required for an efficient bond market to thrive. First, rule of law is paramount. Investors must know the ground rules. There must be a corruption-free legal system that creditors can use to enforce debt contracts up to and including liquidation of the insolvent debtor. There should be a sufficient supply of credit to allocate by means of the market mechanism, as opposed to governmental administrative allocation. A clear-cut procedure for restructuring problematic borrowers in a timely manner is also desirable. Also, there should be regular and transparent financial reporting of bond prices and the financial positions of borrowers. Failures in financial reporting for some large borrowers, such as Enron and WorldCom, led to recent bond market volatility in the United States.

A thriving credit culture has a crucial role to play

A sound credit culture is characterised by 1) appropriate understanding of the creditworthiness of borrowers, ie their willingness and ability to meet their obligations; and 2) the ability of investors to decide whether or not to lend, and the price of lending based on proper credit assessments.

Moody's understands that this view is shared by officials directing China's economic reform. The more advanced a country is economically, the more advanced its credit culture is generally. Inscribed over the entrance to our headquarters in New York, you will find the phrase, "Credit - Man's Confidence in Man", a noble sentiment indeed!

Supporting the high economic growth required to meet people's needs

What better way to cater to the economic aspirations of people than by providing the highest sustainable growth rate possible, with the operative word being "sustainable". Since allocating credit effectively means allocating the people's savings efficiently, fostering efficient credit markets is an effective way of serving the needs of the nation as a whole. Efficient credit markets can provide financing for vital infrastructure projects, including roads, railways, energy projects, hospitals, schools etc. Credit doesn't have to be allocated only to state-owned enterprises and the private sector. Indeed, as we have seen in the US, Canada and, increasingly, Western Europe, credit can also be efficiently allocated by bond markets to regional and local government authorities who are often better able to carry out such projects.

An overview of the Australian corporate bond market

Ric Battellino and Mark Chambers[1]
Reserve Bank of Australia

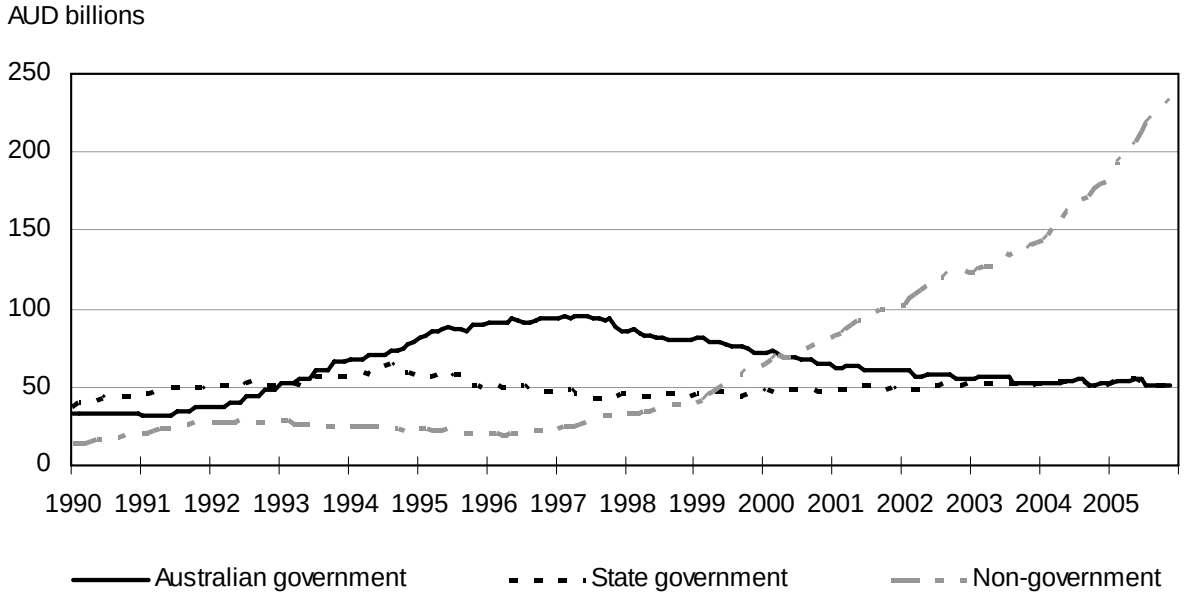
I. Introduction

It was only relatively recently that a well-functioning corporate bond market emerged in Australia. Until the early 1990s, the domestic bond market was largely confined to government borrowers. While a small number of large financial and non-financial borrowers occasionally issued bonds into the domestic market, for the most part they found it easier to source longer-term debt funding through overseas bond markets. Other businesses relied on bank finance and the equity market as their main sources of long-term external funds.

Over the past decade, however, the corporate bond market in Australia has expanded rapidly. Currently, there is around AUD 220 billion of non-government bonds on issue in Australia (an amount equivalent to 25% of GDP), compared with around AUD 30 billion at the end of 1997 (equivalent to 5% of GDP at the time). Over the same period, government bond outstandings have fallen as successive budget surpluses have reduced the borrowing requirements of central and state governments. Consequently, in recent years, non-government bonds have become the largest segment of the Australian bond market (Graph 1).

Graph 1

Bonds on issue in Australia



Source: Reserve Bank of Australia.

[1] Ric Battellino and Mark Chambers are, respectively, Assistant Governor (Financial Markets) and Senior Manager (Securities Markets Section, Domestic Markets Department) at the Reserve Bank of Australia.

II. What was needed for the Australian corporate bond market to grow?

Many preconditions for the development of the Australian corporate bond market had been in place for at least five to ten years prior to its eventual take-off. Perhaps the most important element was the existence of a well-functioning government bond market, which had grown quickly from the early 1980s thanks in large part to financial deregulation. The deregulation programme saw the removal of various controls and regulations, which had limited yield movements and the ability of investors to buy or sell bonds.

The growth of this market gave rise to a host of features that were supportive of the development of a corporate bond market:

- The government debt market provided a benchmark curve free of credit risk, which could allow market participants to separate views on credit risk from views on interest-rate risk.
- The government bond market's growth also supported the development of a very active futures market in government debt, which went on to eclipse the physical market in terms of turnover.
- Bond indices were constructed, and became available as investment benchmarks.
- Market participants invested in improved market infrastructure, such as clearing and settlement systems, and in-house trading systems that could also be utilised for non-government bonds.
- Financial institutions and the associated workforce became financially sophisticated, often with first-hand experience of offshore corporate bond markets.

By the mid-1990s, then, the government bond market was quite large, efficient and liquid by international standards. Further supporting the development of a corporate bond market was the fact that the domestic legal system had well-established procedures for recovering creditors' funds in the event of a corporate default. Investment uncertainty was also reduced by regulatory oversight of capital market fund-raising and corporate governance. In addition, rating agencies were familiar with the Australian corporate environment, and a number of borrowers had public credit ratings.

There were other factors, though, that impeded the development of the market:

- Australia experienced a recession at the start of the 1990s, which resulted in substantial deleveraging within the corporate sector during the first half of the 1990s.
- Until the late 1990s, the government sector was running sizeable deficits, with associated large borrowing requirements. At its peak, government bond issuance might have resulted in some crowding out of corporate issuance.
- Until the 1990s, the domestic pool of investment funds was relatively small. Furthermore, foreign investment was deterred by interest withholding tax on corporate bonds.

Over the course of the decade, these impediments were reduced. Strong economic growth led to renewed demand by businesses for external finance. The government sector was able to take advantage of sound domestic economic conditions to move budgets into surplus and reduce borrowing requirements, thereby easing competition for investment funds. At the same time, the pool of funds available for investment was boosted by the introduction of a compulsory retirement savings system in the early 1990s. The removal of interest withholding tax on foreign investment also made Australian capital markets more attractive to foreign investors.

The 1990s also saw a low and stable inflation environment established in Australia. The resulting decline in the level of nominal interest rates meant that banks' low-cost retail deposit base was no longer such a significant competitive advantage in the lending market when compared with loans funded at wholesale money market rates. This, in turn, meant that for some large customers it became more profitable for banks to receive fee income from facilitating non-intermediated debt issues than to receive net interest income from on-balance sheet lending.

As well as a decline in the level of interest rates, this period also saw a marked reduction in the volatility of money market rates relative to retail lending rates which, in turn, increased the economic feasibility of loan securitisation - particularly residential mortgage-backed securities (RMBSs). (The relatively small margin between RMBS vehicles' funding rates and the rates they receive from

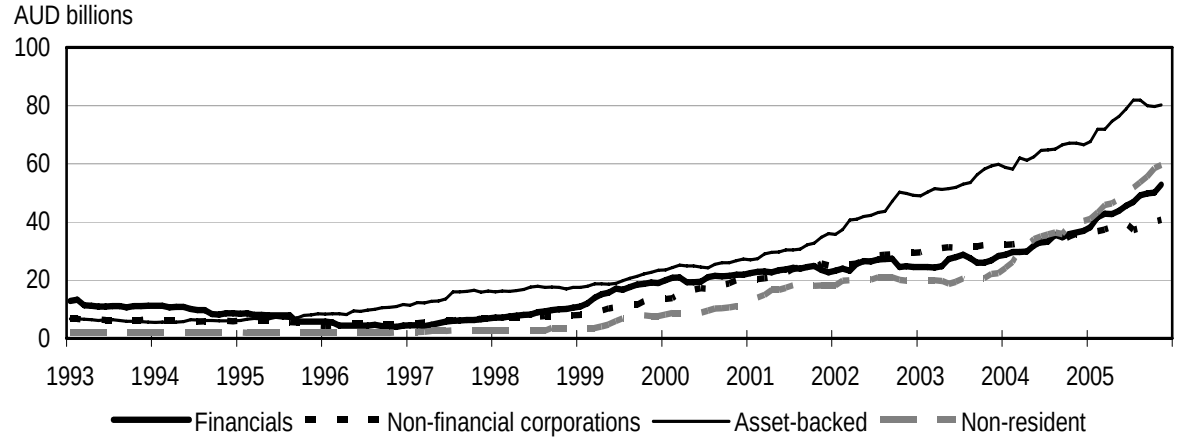
households means that they have limited ability to cope with large fluctuations in wholesale rates.) As a result of this, many new participants entered the Australian securitisation industry.

III. Recent growth of Australia's corporate bond market

Since the mid-1990s, the Australian corporate bond market has grown very quickly, roughly doubling in size every two to three years (Graph 2).

Graph 2

Non-government bonds on issue in Australia



Source: Reserve Bank of Australia.

Over this period, asset backed securities (ABSs) have been the largest component of the corporate bond market, with most of this consisting of RMBSs. Two factors have driven the volume of issuance of these bonds. First, as mentioned above, macroeconomic developments in the 1990s meant that it became economically feasible for mortgage originators to enter the household lending market and aggressively compete with banks and other traditional lenders. Second, Australia experienced a housing boom up to 2003, thanks to the entry of large numbers of retail investors into the residential housing market. With both mortgage originators and traditional lending institutions needing to fund large volumes of housing loans, issuance of RMBSs has increased very quickly. Currently, there is around AUD 65 billion of RMBSs outstanding in Australia, as well as around AUD 15 billion of other types of ABS.

The housing boom, as well as the expansion of lending to businesses, has also led to increased demand by domestic financial institutions for on-balance sheet funding. Currently, there is around AUD 50 billion of these institutions' bonds on issue in Australia, a net increase of around AUD 45 billion since 1995.

The amount of non-financial corporate bonds on issue has also grown rapidly, with around AUD 40 billion outstanding at present. However, for the most part, non-financial corporates continue to be heavily reliant on intermediated funding, with only very large Australian non-financial corporates issuing bonds in the domestic market.

IV. The Australian corporate bond and foreign exchange markets

The development of the domestic bond market has been facilitated by the existence of a deep and liquid foreign exchange market. The interaction between these two markets takes place through three main channels:

1. If foreign issuers are to participate in the local bond market, they need a deep and liquid cross-currency swap market in order to convert proceeds back into their currency of choice.

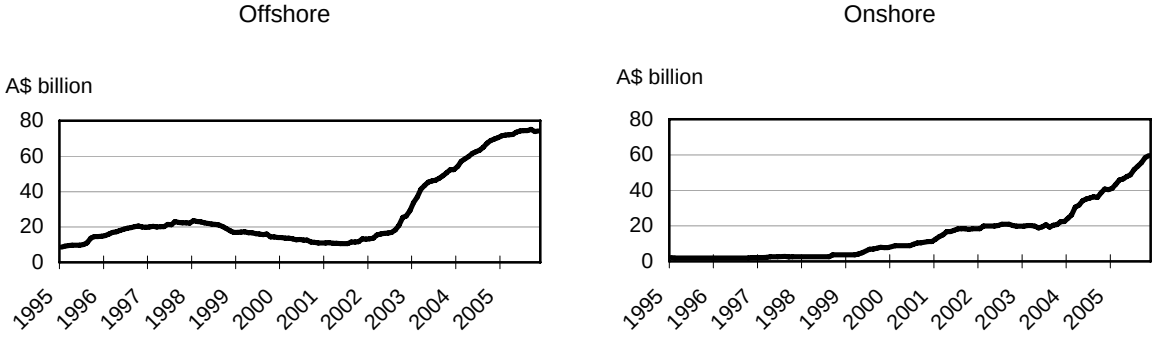
2. In order for domestic issuers to be able to tap into investor bases overseas, they too need a developed cross-currency swap market in order to hedge their liabilities back into domestic currency.

3. A deep forward foreign exchange market helps foreign investors in the local bond market, and domestic investors wishing to invest overseas, fund their purchases without taking on currency risk.

Australia has a very active foreign exchange market: at present the Australian dollar is the sixth most traded currency in the world, with the AUD/USD cross being the fourth most traded currency pair globally. This market developed only after the floating of the exchange rate and the removal of restrictions on foreign exchange activity.

Graph 3.1

Australian-dollar bonds issued by non-residents

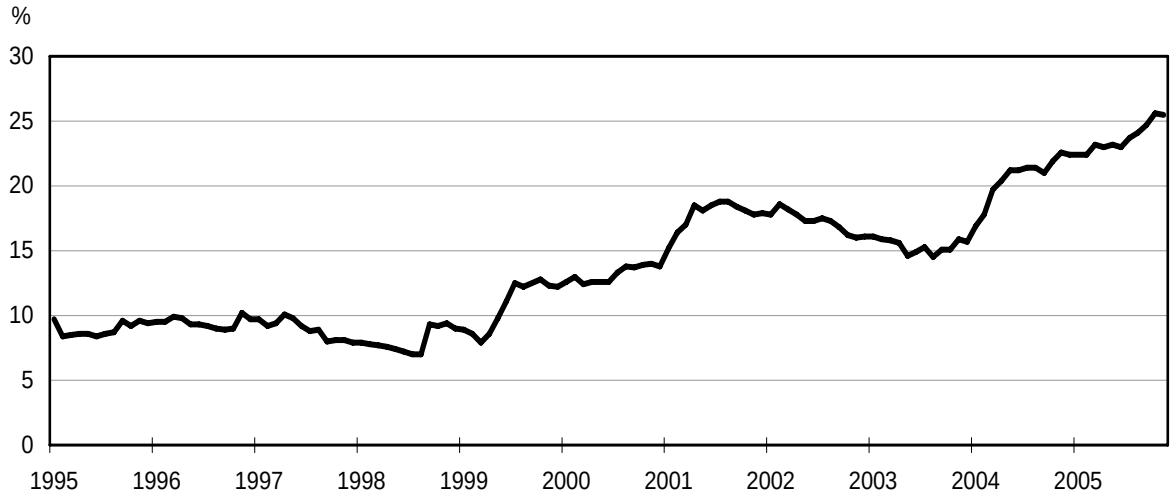


Source: Reserve Bank of Australia.

Graph 3.2

Australian-dollar bonds issued by non-residents

Percentage of domestic non-government bonds on issue



Source: Reserve Bank of Australia.

In the past two years, around AUD 40 billion of debt has been raised in the Australian bond market by non-residents, bringing total outstandings of this group to AUD 60 billion. Non-resident borrowers are now the second largest category of bond issuers in the Australian market, accounting for about a quarter of non-government bonds issued in Australia (Graphs 3.1 and 3.2). This issuance has broadened the range of names that Australian fund managers can easily invest in, thereby adding to the depth and diversity of the domestic bond market.

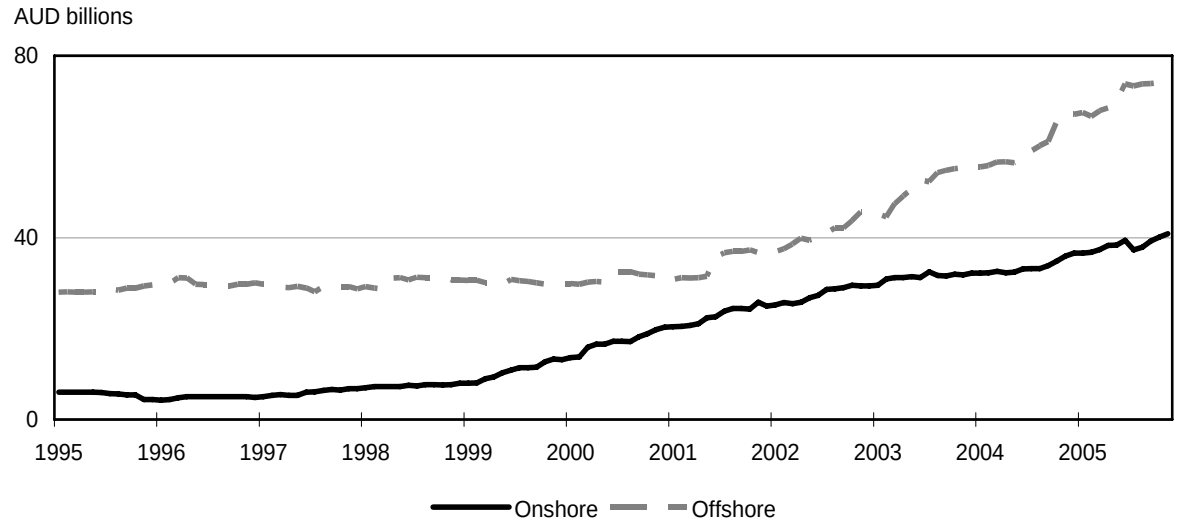
Issuance by non-resident borrowers into the local market does not crowd out domestic borrowers, as non-resident borrowers will usually swap the Australian dollar funds they have raised back to their home currency. This puts downward pressure on the cross-currency basis swap, which, in turn, can make it attractive for domestic borrowers to issue offshore and swap back into Australian dollars.

Encouraged by attractive swap rates, Australian non-government entities - particularly financial institutions - have been active in offshore bond markets. Australian borrowers currently rely on offshore markets for around 60% of their bond issuance (Graphs 4.1 to 4.3). This is all hedged back to Australian dollars using foreign exchange derivatives.

Graph 4.1

Bonds issued by Australian borrowers

Non-financial corporations

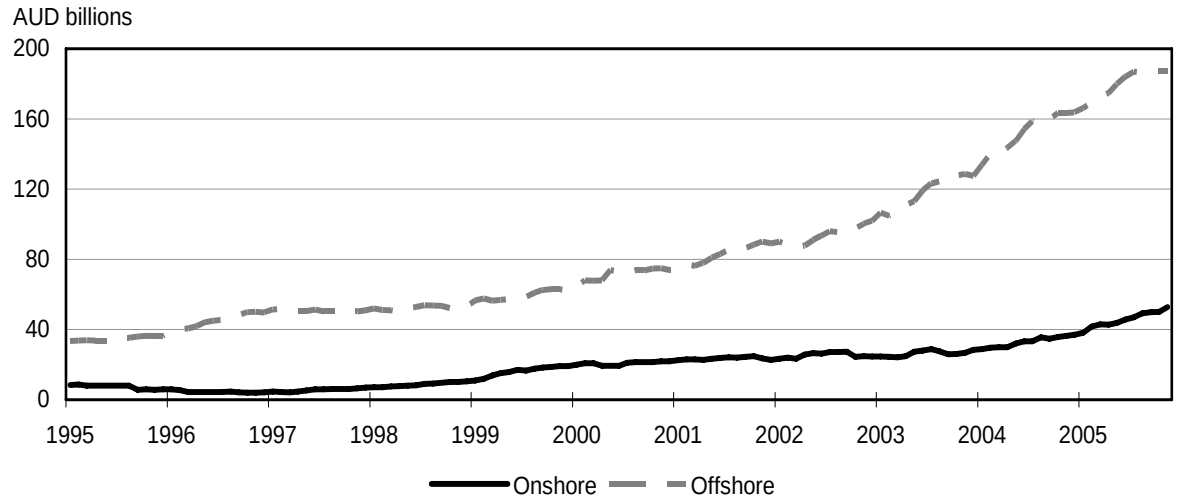


Source: Reserve Bank of Australia.

Graph 4.2

Bonds issued by Australian borrowers

Financial corporations

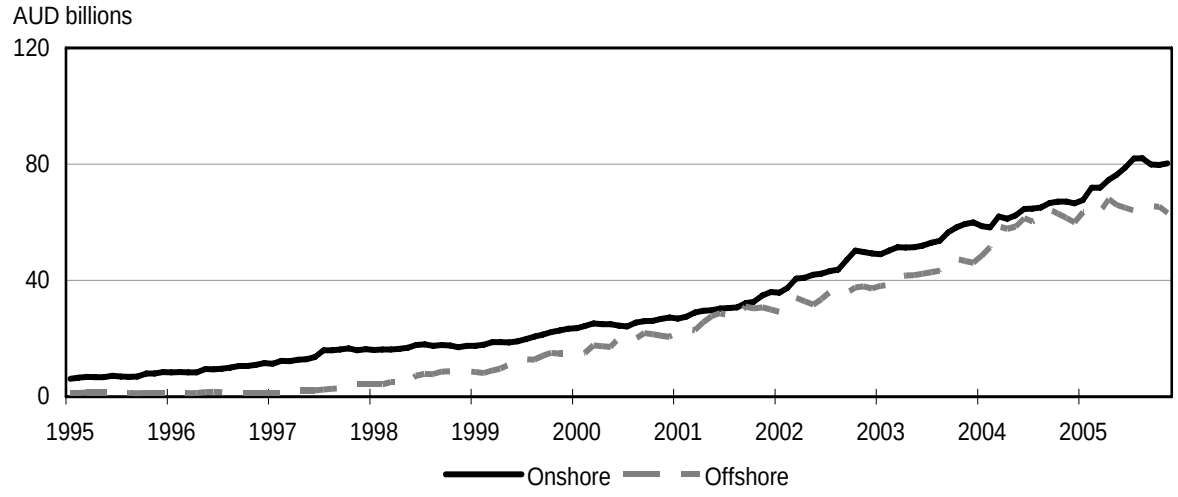


Source: Reserve Bank of Australia.

Graph 4.3

Bonds issued by Australian borrowers

Asset-backed securities



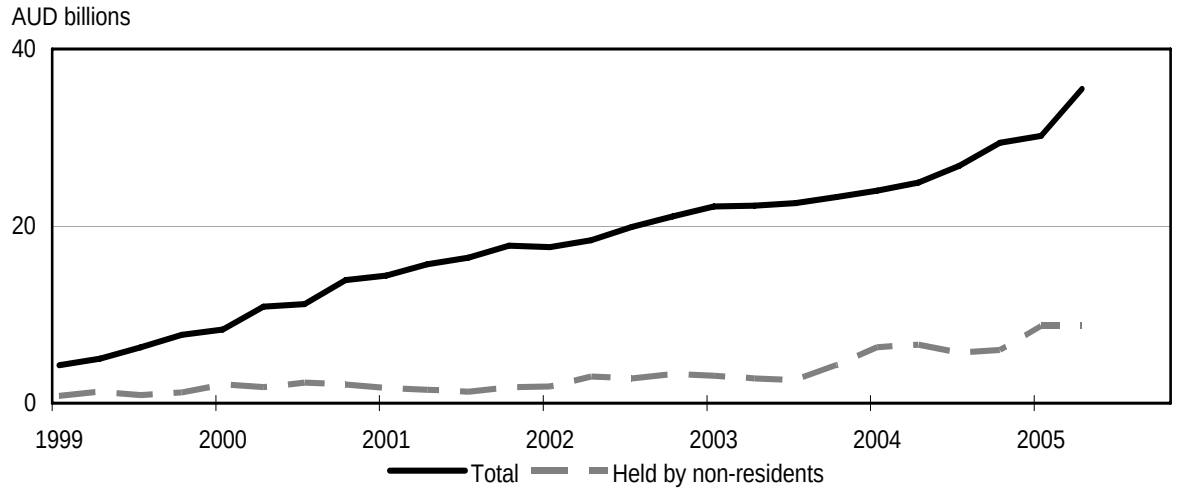
Source: Reserve Bank of Australia.

A well-functioning foreign exchange market also encourages non-resident investors to participate in the local bond market, since it allows them to readily hedge their currency risk. In Australia, the share of Australian entities' domestically issued bonds held by non-residents has steadily risen over the past five years (Graphs 5.1 to 5.3).

Graph 5.1

Non-resident investment in the Australian bond market

Bonds issued by non-financial corporations

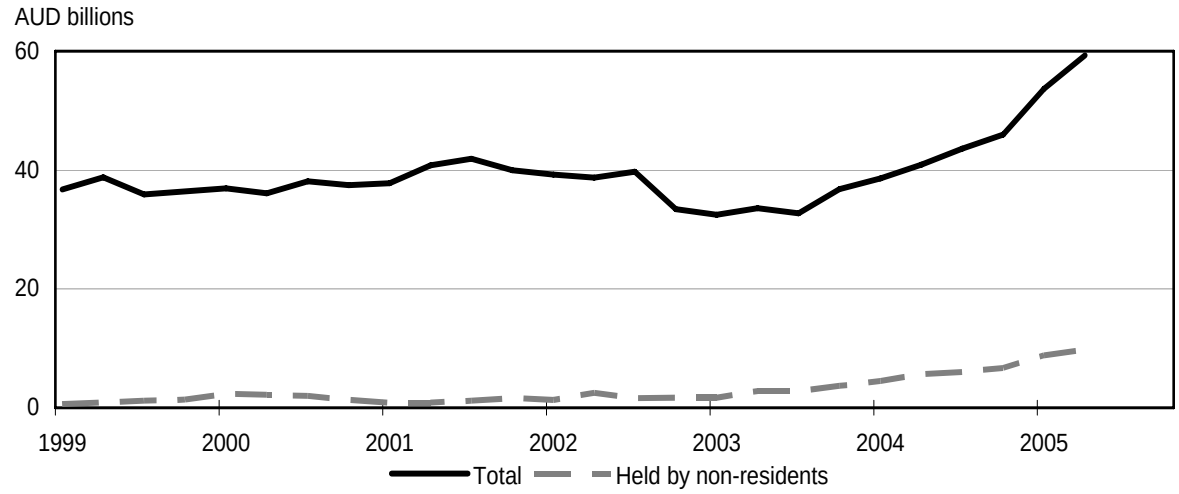


Sources: Australian Bureau of Statistics; Reserve Bank of Australia.

Graph 5.2

Non-resident investment in the Australian bond market

Bonds issued by financial corporations

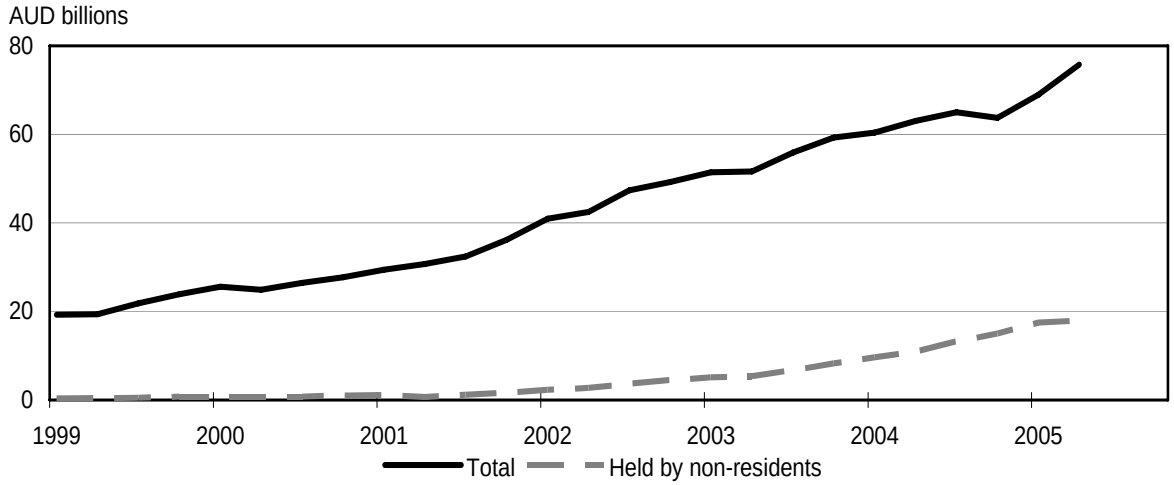


Sources: Australian Bureau of Statistics; Reserve Bank of Australia.

Graph 5.3

Non-resident investment in the Australian bond market

Bonds issued by asset-backed vehicles



Sources: Australian Bureau of Statistics; Reserve Bank of Australia.

V. Current features of the Australian corporate bond market

Primary market issuance

The main rating agencies operating in Australia are Fitch Ratings, Moody's and Standard & Poor's. Most domestic bonds outstanding in Australia have been issued with a high credit rating (Table 1). Around half of all domestic corporate bonds outstanding are rated AAA, reflecting the large amount of RMBSs on issue, the bulk of which enjoy AAA ratings.

The high proportion of AAA bonds is also a result of many lower-rated non-financial issuers arranging credit enhancement for some or all of their bonds; of the AUD 14 billion of AAA-rated bonds issued by these corporations, nearly all have credit enhancement (mainly through monoline insurance). Bonds rated BBB or lower are still a small component of the Australian market, and many lower-rated corporations find it easier to issue bonds in offshore markets.

Table 1

Credit ratings of corporate bonds on issue in Australia

At end-June 2005

	Total (AUD billions)	Percentage of total by borrower type					
		AAA	AA	A	BBB	Sub-investment-grade	Unrated/ unknown
Financials	45.6	14	51	30	5	0	0
Non-financials	39.4[1]	41	4	39	10	0	6
ABSs	78.9	86	7	3	1	1	1
Non-residents	48.8	53	26	20	1	0	0
Total non-government	212.7	55	20	19	3	0	2
Memo:							
Australian government	*55.1*	*100*	*0*	*0*	*0*	*0*	*0*
State government	*52.3*	*89*	*11*	*0*	*0*	*0*	*0*

[1] Of the AUD 16.1 billion of AAA-rated non-financial corporate debt, AUD 14.7 billion is credit-enhanced debt issued by lower-rated borrowers.

Source: Reserve Bank of Australia.

In Australia, investment-grade corporate bonds are typically issued at spreads that are in line with those of similarly rated bonds in overseas markets.

By global standards, Australia's domestic corporate bond maturity profile is relatively short, averaging around four to six years. The shorter maturity profile of domestically issued bonds partly reflects a preference among investors for securities of this tenor. However, the maturity profile appears to be shifting: in 1994 only 15% of issues had maturities longer than five years, whereas in 2005 this figure had increased to 43%.

In the past, some borrowers have preferred to make larger-sized issues offshore because of the perception that the domestic market is too small to be able to absorb these large deals - but this too appears to be changing. Further, over the past year a record number of non-resident entities have made "jumbo" bond issues (AUD 1 billion or more) in the domestic market.

Corporate bond investors

Domestic pension funds, life insurance offices and other fund management institutions are the largest investors in the domestic corporate bond market (Table 2). For the last five years, these institutions have held around 50% of total corporate bonds outstanding in the Australian market. As noted earlier, Australia's compulsory retirement savings system means that these institutions have a large appetite for fixed-interest securities.

Non-resident investors are the next largest group of corporate bond owners in Australia, currently holding a little under a quarter of total non-government bonds outstanding. This share has increased from a negligible amount only five years ago, thanks partly to the sound quality and positive yield differential of Australian corporate bonds over this period.

Investment by banks and related institutions account for 20% of the market. Some of the demand from banks has been driven by a desire to diversify balance sheet risk and to support their broking operations.

Direct investment by households in the Australian corporate bond market is very limited, currently amounting to less than 2% of outstandings. It is difficult for retail investors to access the corporate bond market, since for almost all bond issues the minimum investment amount is AUD 500,000. (This is due to securities regulations requiring a prospectus to be issued for amounts less than this, which can significantly add to the issuer's transaction costs.)

Table 2

Ownership of Australian corporate bonds on issue

At end-June 2005

	Percentage of total						
	Banks	**Insurance companies**	**Pension funds**	**Other financial institutions**	**Households**	**Other domestic**	**Non-residents**
Financials	25	21	10	11	3	13	17
Non-financials	19	25	9	18	1	2	26
ABSs	18	19	9	27	3	1	24
Total non-government	20	21	9	20	3	5	22
Memo:							
Australian government	*4*	*20*	*17*	*0*	*0*	*5*	*54*
State government	*22*	*32*	*17*	*0*	*0*	*19*	*11*

Source: Australian Bureau of Statistics.

Trading and pricing in the secondary market

The secondary market for both government and corporate bonds in Australia is an over-the-counter market. Around ten market-makers are active at present - the same participants as for the government market - though they may not always be able to quote bid and ask prices for every security.

Price discovery for corporate bonds relies on the Australian government yield curve - in particular, government bond futures contracts - and the interest-rate swap curve. Additional price information for particular credit ratings is available through credit derivatives such as credit default swaps, with liquidity in this market increasing rapidly since 2000.

Liquidity in the corporate bond market is good compared with other international markets (with the exception, of course, of the United States), but less than that in the government bond market (Table 3). Over the past four years, turnover as a ratio to outstandings has been fairly constant at around three, compared to a liquidity ratio of eight for government bonds. Liquidity is highest for bonds issued by banks and supranationals, since these bonds are typically issued in large lines and are of high credit quality. Liquidity is lowest for small, lower-rated ABS tranches.

Settlement of transactions is on a T+3 basis. Transactions are settled electronically via real-time gross settlement. Almost all fixed income securities in Australia are registered in Austraclear, a registry system owned by the Sydney Futures Exchange.

Table 3

Bond market turnover in Australia

Turnover in year to June 2005, AUD billions

Australian government	State government	Banks	ABSs	Other domestic bonds	Non-resident	Total
368	251	89	68	105	181	1063

Source: Australian Financial Markets Association.

The development of China's bond market

Mu Huaipeng[1]
People's Bank of China

I. The structure of China's bond market

China's bond market consists of two main markets: the interbank bond market and the exchange market. After more than ten years of development, China's bond market has become a multi-layered one in which the interbank market plays the leading role, complemented by the exchange market. Each market has its own niche, meeting the needs of different investors.

1. The interbank bond market

The interbank bond market was formed in June 1997, when the People's Bank of China (PBC), under the instruction of the State Council, issued *The Notice on Cessation of Repo and Bond Trading by Commercial Banks in the Stock Exchanges* (PBC Notice no (1997) 240), mandating that all commercial banks move their repo and bond trading out of the Shenzhen and Shanghai stock exchanges and into an interbank market operating through an electronic trading system. The interbank bond market is a quote-driven OTC market outside the exchanges, whereby deals are struck based on bid and ask prices negotiated between two trading counterparties. Institutional investors are the main players in this market.

2. The exchange bond market

The exchange bond market is an order-driven market, where bonds are traded, alongside equities, on an exchange. Deals are struck based on tender prices. Small and medium-sized institutions and individuals are the main players in this market.

II. The current situation of China's bond market

By all measures, China's bond market has been growing in leaps and bounds: bond issues are on the rise; market capitalisation is expanding substantially; turnover in the secondary market is surging; and the number and variety of market participants and instruments are rapidly increasing.

1. Debt issuance is on the rise. By end-November 2005, the total value of debt issued during the year had reached RMB 3,686.94 billion, an increase of 74.33% over the same period last year. Of this total, government bonds accounted for RMB 429.71 billion; central bank bills RMB 2,526.2 billion; financial institutions' bonds RMB 616.8 billion; non-financial corporate bonds RMB 50.4 billion; and short-term corporate financing bills RMB 112.1 billion.

2. Outstanding stock of bonds in China is growing rapidly. At end-November 2005, total bonds and bills outstanding amounted to RMB 7.07 trillion, a rise of 42% year on year. The value of tradable bonds reached RMB 6.9 trillion, accounting for 98% of total debt outstanding, while that of non-tradable bonds came to RMB 0.17 trillion, representing only 2% of total debt outstanding. The outstanding value of bonds traded in the interbank market reached RMB 6.46 trillion, accounting for

[1] Director General of Financial Markets Department, People's Bank of China.

94% of tradable bonds, while the value of those traded in the exchange market came to only RMB 0.39 trillion, representing less than 6%.

3. Turnover is surging. Total turnover in the interbank market during the first eleven months of 2005 reached RMB 20.64 trillion, an increase of some 62% year on year. Of that total, spot transactions came to RMB 5.2 trillion, collateralised repos RMB 15 trillion and outright repos RMB 179.4 billion. Over the same time period, total turnover in the exchange market reached RMB 2.43 trillion. Of that total, spot trading amounted to RMB 254 billion and repos RMB 2.18 trillion.

4. The number of market players is burgeoning. As the pace of market liberalisation has accelerated, the number and diversity of investors have burgeoned. By end-November 2005, the number of participants in the interbank market had reached 5,227, an increase of 22% from end-2004. Those participating in this market now include banks, securities firms, mutual funds, insurance companies and other non-bank financial institutions and corporations.

5. The variety of instruments is expanding. In terms of instruments on offer, repos and forwards have been introduced, in May 2004 and June 2005 respectively, while debt products now go beyond government bonds to encompass central bank bills; bonds issued by policy banks, banks and other non-bank financial institutions; subordinated debt issued by commercial banks; short-term corporate financing bills; and corporate bonds issued by non-financial firms.

III. The scope and importance of the interbank bond market

As the wholesale OTC bond market serving principally an institutional investor base, the interbank market plays a key role in ensuring the healthy operation of the macroeconomy, effective transmission of monetary policy and effective allocation of financial resources.

First, the interbank market has promoted the development of direct financing, which has reduced the economy's over-reliance on the banking system for credit, optimised the financing structure of the economy as a whole, mitigated financial risk and enhanced market efficiency.

Second, this market has significantly facilitated market-based interest rate reform. Indeed, it was in the interbank market that China's market-based interest rate reform began. Thanks to the development of this market, we now have a bond yield curve that provides a benchmark for price-setting in the primary bond market and price-quoting in the secondary market. Such progress is of great significance in terms of pricing financial assets and interest-rate derivatives, as well as providing information concerning inflation expectations.

Third, the interbank market has laid a foundation for macro-control by the central bank and has contributed to the more effective application and transmission of monetary policy. The interbank bond market is where the central bank conducts its open market operations; and the deepening and expansion of this market has provided even more scope for the central bank to act, accelerating the transformation of monetary control from a direct administrative approach to an indirect market approach. The central bank has already been equipped with the capacity to influence interest rates in the money market via its open market operations, and it is now clear that the improvement in the monetary policy transmission mechanism has greatly enhanced the effectiveness of monetary policy.

Fourth, the interbank market has provided a way for financial institutions to better manage their liquidity. Specifically, this market enables commercial banks to hold bonds, adjust their liquidity positions promptly and reduce their excess reserve levels. Recent developments in this market are also now enabling commercial banks to better manage their liabilities, mitigating their mismatch problems and operational risks.

IV. Recent reforms in China's bond market

Recent reforms in China's bond market have been in three main areas: financial product innovation, general market infrastructure and corporate bond market development.

1. Active promotion of financial innovation

Accelerating financial product innovation and increasing investor choice

First, commercial banks can now issue subordinated bonds. In order to improve asset quality and capital adequacy levels at commercial banks, as well as advance the reform process of state-owned commercial banks, the PBC issued *The Regulations on the Issuance of Subordinated Bonds by Commercial Banks* in June 2004. At that time, the PBC granted approval for Bank of China, China Construction Bank, Industrial and Commercial Bank, Industrial Bank and China Minsheng Banking Corporation, Ltd to issue subordinated bonds; by end-October 2005 total issuance of subordinated bonds issued by commercial banks had reached RMB 128.8 billion.

Second, other financial institutions can now issue bonds. To expand direct financing channels for financial institutions and provide them with the liability management tools needed to resolve their long-standing problem of term structure mismatch, the PBC, after considerable public consultation, issued *The Regulations on the Issuance of Financial Bonds in the National Interbank Bond Market* in April 2005. By end-October 2005, Shanghai Pudong Development Bank, China Merchant Bank and Industrial Bank have issued bonds for RMB 7 billion, RMB 10 billion and RMB 10 billion, respectively.

Third, non-financial corporations can now issue short-term financing bills in the interbank market. To improve the economy's financing structure and encourage competent enterprises to tap the capital market directly in order to meet their financing needs and reduce their costs, the PBC issued *The Regulations on Short-term Financing Bills* and other related supporting documents in May 2005. Soon after this, the first batch of such short-term financing bills was issued in the interbank market. By end-2005, non-financial corporations' short-term financing bills outstanding were already approaching RMB 140 billion. The issuance and trading of non-financial corporations' short-term financing bills is a major breakthrough in the development of direct financing for non-financial corporations.

Fourth, an asset-securitisation pilot scheme was recently introduced. *The Regulations on Pilot Credit Asset-Securitisation* were enacted in April 2005, paving the way for a trial run for mortgage-backed securities (MBSs) and asset-backed securities (ABSs). Going forward, financial products related to securitised assets are likely to play an active role in direct financing, as well as asset-liability management at banks.

Promoting instruments that aid liquidity, risk management and price discovery

First, outright repos have been introduced for the purpose of increasing bond market liquidity. Specifically, we have learnt from the experiences of other developed bond markets and modified the classic repo for use in our domestic interbank bond market. *The Regulations on Bond Outright Repos in the National Interbank Bond Market*, enacted in April 2004, set down the structure of the outright repo. Outright repo trading has not only increased the liquidity of the bond market, but has also paved the way for the introduction of other derivatives. At end-October 2005, turnover of outright repos in the interbank bond market totalled RMB 283.3 billion.

Second, bond forward transactions were recently introduced. As mentioned above, the success of outright repo trading has spurred us to develop the financial derivatives market further. Consequently, *The Regulations on Bond Forward Transactions in the National Interbank Bond Market*; *the Master Agreement on Bond Forward Transactions in the National Interbank Bond Market;* and *the PBC's Notice Regarding Matters Related to Information Disclosure and Risk Surveillance of Bond Forward Transactions in the National Interbank Bond Market* were issued during April–June 2005. Bond forward transactions can help investors manage interest-rate risk, increase market liquidity and fulfil the price-discovery function. In addition, the trading of forwards can provide key information for the central bank in its conduct of monetary policy, and can play an important role in promoting the future development of the bond market in particular and financial markets generally.

2. Infrastructure development in the interbank bond market

Establishing a legal framework for the market

In the course of bond market development, we follow the principle of "making rules first, conducting business later". This means that the government puts great emphasis on establishing the necessary

rules to ensure the sound development of the bond market. In recognition that a proper legal framework is a prerequisite for the emergence of innovative financial products and the development of bond markets generally, we have issued a number of regulations, many of which have been mentioned in Section IV.1 above. In formulating these, we sought the views and comments of intermediaries and market participants on the appropriate legal framework for the bond market. The resulting framework has played an important role in the market's development, by improving the efficiency of transactions and settlements, reducing default risk and reinforcing industry self-discipline.

In addition, incorporating the views and comments of intermediaries and market participants on the appropriate legal framework for the bond market, we have also formulated a number of standardised documents such as

- The Master Agreement on Collateralised Repos in the National Interbank Bond Market;
- The Master Agreement on Outright Repos in the National Interbank Bond Market;
- The Master Agreement on Bond Forward Transactions in the National Interbank Bond Market.

Building market infrastructure

Sound market infrastructure is also essential for the sustainable and healthy development of the bond market. In recognition of this, the PBC has accelerated progress on this front in recent years.

First, a delivery versus payment (DVP) settlement system for the interbank market became operational on 8 November 2004, when the book-entry and payment systems were connected. This connection was a major breakthrough: it has improved operational efficiency, met the demands of financial product innovation, and effectively mitigated and controlled settlement risk - thereby providing reliable technical support for the efficient and safe operation of China's bond market.

Second, in October 2005 the straight-through processing (STP) settlement system was launched on a trial basis in the interbank market, whereby the trading system was linked to the book-entry system. A working group was formed to resolve the data-sharing and transmission frequency issues related to the connection of the trading and book-entry systems, and to draft relevant regulations. This group has also guided the financial intermediaries through the system development testing. Thus far, the STP system has been operating smoothly, and has helped improve trading efficiency and lower operational risk, thereby enhancing the workings of the whole bond market.

Fostering the institutional investor base

First, *The Regulations on Establishment of Pilot Fund Management Companies by Commercial Banks* were enacted in February 2005, authorising commercial banks to establish their own fund management operations and to offer fund management products. Three commercial banks have been approved to set up fund management companies so far, and, by end-November 2005, three stock market funds had been established, with a total issuance of RMB 14.7 billion. In addition to promoting direct finance, this regulatory initiative has also helped to advance the reform of commercial banks, improve resource allocation and diversify the investor base.

Second, strategic foreign institutional investors were given direct access to China's interbank bond market for the first time in 2005, when the Pan-Asia Index Fund and the China Index Bond Fund of the Asian Bond Fund 2, made sizeable investments in bonds there. Foreign institutional investor participation brings with it not only a mature investment philosophy and comprehensive knowledge of bond market operations and corporate governance, but also healthy competition and a forum for institutional investors to learn from each other.

3. Boosting the corporate bond market

In China, the incomplete development of the corporate bond market - with its inadequate supervision and legal framework, lack of investor diversity and low liquidity - has become a pressing problem for the Chinese economy. In particular, restrictions on issuers' qualifications, issuance amounts and pricing of new non-financial corporate issues need to be eliminated, while information disclosure and the credit rating system need to be beefed up. In addition, the official approval procedure for the

issuance of corporate bonds should be transformed gradually into a verification system and, ultimately, into a “registration management” system.

To promote the rapid development of the corporate bond market in China, *The Rules on Approving the Circulation of Bonds in the Nationwide Interbank Bond Market* were enacted in December 2004. By end-November 2005, seven non-financial corporate issues had been allowed to trade in the interbank bond market. Prior to the introduction of this rule, corporate bonds could list only on the exchange market. The introduction of non-financial corporate issues to the interbank market should boost both its market capitalisation and liquidity.

Developing corporate bond markets: a European legal perspective

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Introduction

This contribution addresses the development of corporate bond markets from a European legal perspective. While the introduction of the euro itself has given a major boost to the development of corporate bond markets, the legal underpinnings of such development seem equally important. This applies in particular to legislation adopted at the European Union (EU) level to foster further integration of EU financial markets. This contribution concludes that much has been achieved in this area, also to the benefit of corporate bond markets. At the same time, much remains to be done, particularly with regard to: the institutional framework for the adoption of EU legislation; the quality, consistent implementation and application and strengthened enforcement of such legislation at a national level; and the strengthening of cooperation between regulatory and supervisory authorities. In summary, this contribution highlights three topics:

– the general institutional framework through which the EU tries to achieve, and the European Central Bank (ECB) contributes to, further integration of the EU financial markets, including corporate bond markets; this part also contains a short exposé on the euro and its institutional framework in order to clarify certain notions which are used throughout this contribution;

– the patchwork of legislative and other initiatives in the EU (and sometimes beyond, but with an impact on the EU) that are particularly relevant to the securities sector in the EU and therefore also to corporate bond markets; and

– the likely course of events with regard to the main issues addressed in this contribution.

1. The euro and its institutional framework

On 1 June 1998, the ECB and the European System of Central Banks (ESCB) were established. The ESCB is composed of the ECB and the National Central Banks (NCBs) of the 25 EU Member States. These Member States are at present: Austria, Belgium, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden, and the United Kingdom. In addition, Bulgaria, Croatia, Romania and Turkey are on the waiting list to become EU Member States.

On 1 January 1999, the euro was introduced in Austria, Belgium, Finland, France, Germany, Ireland, Italy, Luxembourg, the Netherlands, Portugal and Spain, and, exactly two years later, in Greece, i.e. in 12 EU Member States in total. Denmark and the United Kingdom have, until further notice, officially opted out of the introduction of the euro, while Sweden, because of the results of public referenda, has decided, at least for the time being, not to pursue the introduction of the euro. (Note that Sweden did not make a reservation to this effect in the Treaty on its accession to the EU.) The EU's ten new Member States, which joined the EU in May 2004 (Cyprus, the Czech Republic, Estonia, Latvia,

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Lithuania, Hungary, Malta, Poland, Slovakia and Slovenia), do not have such an opt-out possibility, and will therefore have to introduce the euro once they qualify under the so-called Maastricht convergence criteria. Such criteria set out parameters for the introduction of the euro with regard to price stability, public finance discipline, interest rate convergence and exchange rate stability.

The ECB is located in Frankfurt am Main, Germany, away from the EU's political bodies in Brussels (Belgium), Luxembourg (Grand Duchy of Luxembourg), and Strasbourg (France), which underscores its independence as a central bank. It has three decision-making bodies:

– the Governing Council, which is composed of the NCB Governors of the 12 EU Member States that have introduced the euro, plus the six members of the ECB's Executive Board;

– the Executive Board, which is composed of the ECB's President, Vice-President and four members, who are all appointed for a non-renewable eight-year term; and

– the General Council, which is composed of all 25 NCB Governors, as well the ECB's President and Vice-President.

To illustrate the distinction between these decision-making bodies with one example: the Governing Council formulates the ECB's monetary policy, the Executive Board implements it and the NCBs execute it. The General Council contributes in specific, non-core fields to the tasks of the ECB. The Governing Council meets on a fortnightly basis, while the Executive Board is in charge of the ECB's day-to-day management. Delegations from the NCBs and ECB meet regularly at a technical level in a variety of committees, while the General Council meets on a quarterly basis.

The ECB distinguishes between the ESCB (see above) and the Eurosystem, which is composed of the ECB and only the 12 NCBs of the EU Member States that have introduced the euro (also known as the euro area NCBs). The euro area NCBs execute the Eurosystem's tasks in a decentralised fashion, each in its own jurisdiction, with legal instruments that are tailored to that jurisdiction.

2. The euro and the development of corporate bond markets

The focus of this contribution is mainly on legal issues. However, to shed some light on market developments in the EU, the euro-denominated corporate bond market has grown considerably since the introduction of the euro. Although there is no doubt that a number of different factors have contributed to this growth, it is widely recognised that the introduction of the euro has acted as a catalyst for the development of the corporate bond market in the euro area since the introduction of the euro. In fact, the corporate bond market grew from around €200 billion in 1999, the year the euro was introduced, to some €900 billion in 2005, an increase of some five times. Annex I shows this growth in more detail.

Thanks to the introduction of the euro, which eliminates currency risk in the euro area, the market has benefited from a virtuous circle of lower issuance costs (resulting from improved liquidity) and the expansion of the investor base. As far as the legal underpinnings of this development are concerned, ongoing EU efforts to further integrate its financial markets in order to create a truly single market, through legislation and other legal initiatives, have also supported the development of corporate bond markets. Note that the focus of this report is therefore on financial market integration in the EU, and explicit references to corporate bond markets will only be made where relevant.

3. Challenges in EU financial market integration

The EU has made much progress in financial market integration and, therefore, also in corporate bond market development. However, there is much to be done on both fronts. Indeed, there is one internal market without borders between EU Member States, but currently 25 different jurisdictions. Moreover, while there is now a single currency in 12 EU Member States, there is still fragmentation of financial markets across the euro area. Furthermore, there is a single monetary authority for the euro area, the ECB, but still numerous regulators and supervisory authorities at the national levels. The road to further financial market integration in the EU is not an easy one. First of all, for any legislative action to

be taken at the EU level, there must be legal *competence* to do so. Second, if such competence exists, any legislative action is subject to the EU principles of:

– *subsidiarity* (meaning that legislation may be adopted only if this is necessary to meet the EU's objectives and cannot be met through the adoption of legislation at a national level);

– *proportionality* (meaning that the type and substance of legislative action must be in proportion to its stated objectives);

and the ESCB principle of:

– *decentralisation* (meaning that, to the extent possible and appropriate, the ECB has to involve the NCBs in the execution of its tasks at a national level).

The paragraphs below show that these principles have contributed to the establishment of different layers of legislative and other initiatives that do not always seem to be transparent and efficient.

4. The ECB's focus on financial market integration

The ECB is committed to the integration of financial markets. In its Mission Statement, the ECB has formulated several strategic intents of the Eurosystem. Of course, primarily, it shall act as the monetary authority in the euro area and as a leading financial authority, fully recognised inside and outside Europe, but it shall also aim to safeguard financial stability and promote European financial integration. Consequently, the ECB is focused on the following:

– Eurosystem operations (monetary policy, payment systems, collateral policy, foreign reserves and its own fund management);

– financial stability (through the formulation and implementation of policies relating to the prudential supervision of credit institutions);

– financial market integration (to which the ECB contributes through a variety of means such as the harmonisation of its operations, its advisory role vis-à-vis the EU and national legislators with regard to draft legislation in the ECB's field of competence and recommendations addressed to market participants).

In view of the above, if the ECB or NCBs were asked to play an active role in the development of corporate bond markets, there would be grounds for them to do so. However, the ESCB is also required to act in accordance with the principle of an open market economy with free competition, favouring an efficient allocation of resources. In the case where there are other (market) parties with development responsibility, the ECB and NCBs should perhaps refrain from involvement or make any involvement temporary. This is, in fact, what happened when the ECB was asked by the ACI[2] – Financial Markets Association – to support the development of a market in short-term paper, the so-called STEP project. The ECB has agreed to provide certain statistics to enable the ACI to grant a STEP label to short-term paper fulfilling certain criteria, but, for the time being, this arrangement is for a two-year period only.

5. Legal acts to pursue financial integration

In order to pursue their objectives, the EU and the ECB have a large variety of legal powers at their disposal. Because of the principles mentioned in Section 3 above (competence, subsidiarity, proportionality and decentralisation), the legal acts applied in relation to financial integration are mainly EU Directives and ECB Guidelines. Directives are binding upon each Member State to which they are addressed, but they leave to the national legislative authorities the choice of form and method of implementation. ECB Guidelines are addressed to euro area NCBs, and are binding upon such NCBs,

[2] Originally the abbreviation for Association Cambiste Internationale.

usually requiring implementation in national legal acts (which may be of a statutory or contractual nature). Since both Directives and Guidelines require implementation at a national level, there may potentially be differences in implementation across the EU and euro area. Both the EU Commission (as the guardian of EU legislation) and the ECB regularly verify the proper implementation of their respective legal acts, but this cannot prevent such differences from existing.

Having said that, the ECB has always endeavoured to achieve and maintain economically a level playing field across the euro area, and, in particular, avoid distortions in the treatment of Eurosystem counterparties in different euro area jurisdictions. Indeed, in its seven years of operation, the ECB has never heard a complaint on this score. However, it is valid to ask - especially in view of the future enlargement of the euro area - whether financial market integration does not warrant the adoption of EU and ECB Regulations, at least in certain areas where standardisation is appropriate. Such Regulations are generally applicable and binding and could thus, better than EU Directives and ECB Guidelines, support financial market integration, including the development of corporate bond markets.

6. The Financial Services Action Plan (FSAP)

In the mid-1990s, an increasing need was felt in EU financial markets to reap the benefits of the internal market, and move towards a single currency. This led to the adoption of the Financial Services Action Plan (FSAP), which had five main goals:

– devising a legislative apparatus capable of dealing with new legislative challenges;

– eliminating the remaining fragmentation in capital markets;

– exploiting the commercial opportunities offered by a single financial market;

– encouraging closer cooperation between supervisory authorities; and

– developing an integrated EU infrastructure to underpin retail and wholesale financial transactions.

To achieve the first goal (devising a legislative apparatus), a Committee of Wise Men was established, chaired by Baron Alexandre Lamfalussy, former General Manager of the Bank for International Settlements and President of the ECB's predecessor, the European Monetary Institute (EMI), to advise on new structures for the adoption of capital markets legislation. The result was the so-called Lamfalussy procedures, or framework, which distinguish between four levels of action:

- level 1: framework principles established through the usual EU legislative procedures (i.e. a proposal by the EU Commission to the EU Council of Ministers and the European Parliament for co-decision);
- level 2: the establishment of two new committees: an EU Securities Committee (ESC) and a Committee of European Securities Regulators (CESR) to assist the EU Commission in the preparation of measures implementing level 1 legal acts;
- level 3: enhanced cooperation and networking among EU securities regulators to ensure consistent and equivalent transposition of level 1 and 2 legislation (through the adoption of common implementing standards); and
- level 4: strengthened enforcement of EU legislation by the EU Commission.

Soon afterwards, similar structures were also created for the banking, insurance and occupational pensions, and financial conglomerates sectors. The Lamfalussy framework looks rather complicated, but is at present the most realistic way forward towards full market integration. However, the sheer number of different actors in this framework shows that the EU is still a long way away from any sort of unified regulatory and supervisory framework for the financial sector. Indeed, it is probably premature to expect that the EU will be able to develop (as is sometimes advocated in financial circles) a Rulebook for the financial sector anytime soon, although such a Rulebook may well become a long-term goal. In any case, in considering the programme for further financial market integration over the course of 2005-2010, the EU Commission will also review the efficiency and effectiveness of the Lamfalussy procedures and, where appropriate, propose amendments.

7. FSAP and other measures to foster financial market integration in the securities sector

In the FSAP, 42 (mostly legislative) measures were adopted, mainly in the field of banking and capital markets. These were completed at the EU level in 2005 and, since most measures are EU Directives, many still require implementation at a national level. The cornerstones of the EU's legislation for the securities sector are, in chronological order of adoption: Directives on 1) UCITS (Undertakings for Collective Investment in Transferable Securities); 2) Market Abuse; 3) Prospectuses; 4) Markets in Financial Instruments; and 5) Transparency, all of which are listed and summarised in Annex II. Of course, as far as the corporate bond market is concerned, and since a corporate bond is not in itself a defined notion but generally regarded as a debt security, an assessment on a case-by-case basis is required as to which provisions of the above Directives are particularly relevant to a corporate bond. For example, corporate bonds with a nominal value of more than €50,000 do not need to meet certain requirements of the Prospectus and Transparency Directives since they are generally expected to be traded in the wholesale, rather than retail, market, with the consequence that considerations of consumer/investor protection become less relevant.

While the above Directives pertain to issuance and trading, there are also Directives that relate to clearing and settlement, in particular the Settlement Finality Directive (SFD) and the Financial Collateral Directive (FCD) (see Annex II). The SFD is designed to avoid systemic risk in designated funds transfer systems, while the FCD is meant to facilitate the mobilisation and realisation of collateral in the financial sector, particularly in a cross-border context.

In addition, the EU has started to address the so-called 15 Giovannini barriers to the integration of securities clearing and settlement systems (named after the chairman of the group that identified them). These barriers include three purely legal ones: 1) national differences in the legal treatment of securities; 2) national differences in the legal treatment of bilateral netting; and 3) an uneven application of conflict of law rules. To address these legal barriers, a working group of the ESCB and CESR has developed common standards for entities providing clearing and settlement services in the EU, based on an adaptation of the CPSS/IOSCO Recommendations in the European context. These Recommendations contain 19 standards for securities settlement systems. Standard 1 concerns the legal framework and reads as follows: "Securities clearing and settlement systems and links between them should have a well-founded, clear and transparent legal basis in the relevant jurisdictions". In addition, the Clearing and Settlement Advisory and Monitoring Group (CESAME) has been set up, composed of high-level representatives of various private and public bodies involved in this project, including the ESCB and CESR. The EU Commission has also launched a Legal Certainty Project for the creation of a harmonised EU-wide framework for the treatment of book-entry security holdings. Finally, the Commission has recently published a proposal for a framework Directive for efficient and safe pan-European clearing and settlement that addresses the following issues: rights for infrastructure providers and users (access, choice, etc.); a common regulatory framework; and appropriate governance arrangements. All these initiatives are listed and summarised in Annex II.

Uncertainties with regard to the law applicable to securities transfers in a cross-border context are also addressed in a number of international initiatives such as the Hague and Unidroit Conventions (see Annex II).

The question arises whether the above Directives and initiatives are relevant for those states that do not participate in the EU or the Hague and Unidroit Conventions. Of course, the answer to this question depends on the laws applicable in each particular jurisdiction. However, although the above Directives and initiatives often reflect compromises between all parties involved, they also set standards that may be useful to third parties.

The ECB has an advisory role vis-à-vis the EU and national legislators with regard to draft legislation in its field of competence and has delivered opinions on most of the legal acts listed in Annex II. The ECB takes advantage of this advisory role to express its concerns about the complexity of the legislative process as well as its support for standardisation through EU Regulations. Recently, the EU Commission has itself become more critical of the quality of past legislation and has expressed the need for improved legislation in future. At present, the focus is more on: less but better legislation; consistent implementation and application at a national level and strengthened enforcement of such legislation; and intensified cooperation between regulatory and supervisory authorities.

8. Investor protection in case of insolvency

It is obviously essential for the development of a corporate bond market that investors can trust that, in the case of insolvency of a financial intermediary, their assets do not disappear in the bankrupt estate. Insolvencies are primarily governed by the rules of the jurisdiction where they occur, with such rules usually reflecting societal values and thus showing differences across jurisdictions. It is important that such rules provide for segregation of securities belonging to investors on the one hand and assets belonging to the financial intermediary on the other. This may be achieved through trust constructions or through legislation explicitly providing for such segregation (which may, in the case of book-entry securities, be a fictional segregation).

It has taken the EU considerable time to adopt rules harmonising at least certain parts of insolvency proceedings. Particularly relevant for the financial sector are the aforementioned SFD and FCD (see Annex II). The SFD contains, amongst other things, provisions for a case of insolvency of a participant in a designated funds transfer system. Transfers of corporate bonds through such designated systems obviously benefit from SFD protection (as implemented in national legislation.) The FCD contains provisions concerning the mobilisation of financial instruments as collateral and the realisation of such collateral in case of a counterparty insolvency. This Directive also supports corporate bond markets to the extent that bonds are used as collateral. There is also an Investor Compensation Schemes Directive (see Annex II) that benefits the development of corporate bond markets. Moreover, depending on the nature of the issuer (credit institution or private company), there are other rules that may be of relevance to the development of corporate bond markets, particularly in the Winding-Up Directive and the Insolvency Regulation (see Annex II).

Finally, there are initiatives at an international level that are supposed to create legal certainty with regard to the laws applicable to funds transfers (as outlined in Section 7 above). These are also relevant here since they determine the law applicable to securities transfers and collateralisation, which are directly relevant to insolvency situations.

Again, as in the case of (other) FSAP measures, the above shows a patchwork of legislation and initiatives where the impact on the corporate bond market has to be assessed on a case-by-case basis. At the same time, it is clear that the corporate bond market is one of the beneficiaries of such legislation and initiatives.

9. The Eurosystem's collateral policy

The Eurosystem's interest in the corporate bond market is based in part on the possibilities for using corporate bonds as collateral for Eurosystem credit operations (i.e. refinancing and overnight credit). In accordance with Eurosystem rules, such credit transactions can only take place if there is adequate collateral lodged. Assets that meet this requirement are specified in the so-called Tier One and Tier Two lists of eligible collateral. The Tier One list contains marketable assets that fulfil uniform euro area-wide eligibility criteria, as specified by the ECB. The Tier Two list contains additional assets that NCBs consider particularly important for their national markets and banking systems. The eligibility criteria are described in Annex III to this contribution. Obviously, the inclusion of corporate bonds in the above lists of eligible collateral enhances their marketability and thus supports the development of corporate bond markets.

For reasons of efficiency and transparency, the ECB has embarked on a project to merge the Tier One and Tier Two lists into one single list. In terms of collateralisation techniques, collateral is being accepted through repurchase and pledge transactions or similar techniques. While there are legal differences between these techniques (for example, repurchase agreements provide for the transfer of ownership, while pledges provide for a priority right), legally speaking such differences may be less important than they seem on the surface. Indeed, with the SFD and the FCD (see Annex II) the ECB and NCBs are well protected as holders of collateral provided by their counterparties.

As far as the ECB is concerned, it supports the use of the European Master Agreement (EMA) for collaterised transactions. The EMA has been developed by the European Banking Federation (EBF) over the past few years, and is a multi-product, multi-jurisdictional and multi-lingual umbrella agreement with product annexes covering securities loans, repurchase operations and derivatives transactions (foreign exchange, options and interest-rate). At this point, the ECB has entered into

approximately 85 EMAs with its counterparties in the EU and Switzerland (incidentally, all in the course of its foreign reserves operations and own funds management).

10. Concluding remarks

The introduction of the euro gave a major boost to the development of the euro-denominated corporate bond markets, and further growth seems likely. In terms of the legal underpinnings of such development, much has been achieved, particularly through the adoption of EU legislation and other legal initiatives that foster EU financial market integration. More remains to be done, though. Indeed, despite the creation of a single market, a single currency and a single monetary authority (the ECB), financial markets in the EU are still fragmented.

Legislative initiatives to foster financial market integration will have to meet the test of the competence, subsidiarity, proportionality and, for the Eurosystem, decentralisation principles. This may lead to a continued use of EU Directives (and ECB Guidelines), whereas Regulations, at least in certain domains, could possibly be a better tool to achieve such integration because of their generally applicable and binding nature.

The ECB and NCBs have a keen interest in further integration of EU financial markets, including corporate bond markets. The Eurosystem is therefore likely to support such integration through: 1) the harmonisation of its operations; 2) its advisory role vis-à-vis the EU and national legislators with regard to draft legislation in its field of competence; and 3) recommendations directed at market participants. Important undertakings in this regard are the creation of a single list of eligible collateral assets for Eurosystem credit operations and the promotion of the European Master Agreement (EMA) for transactions covered by this agreement.

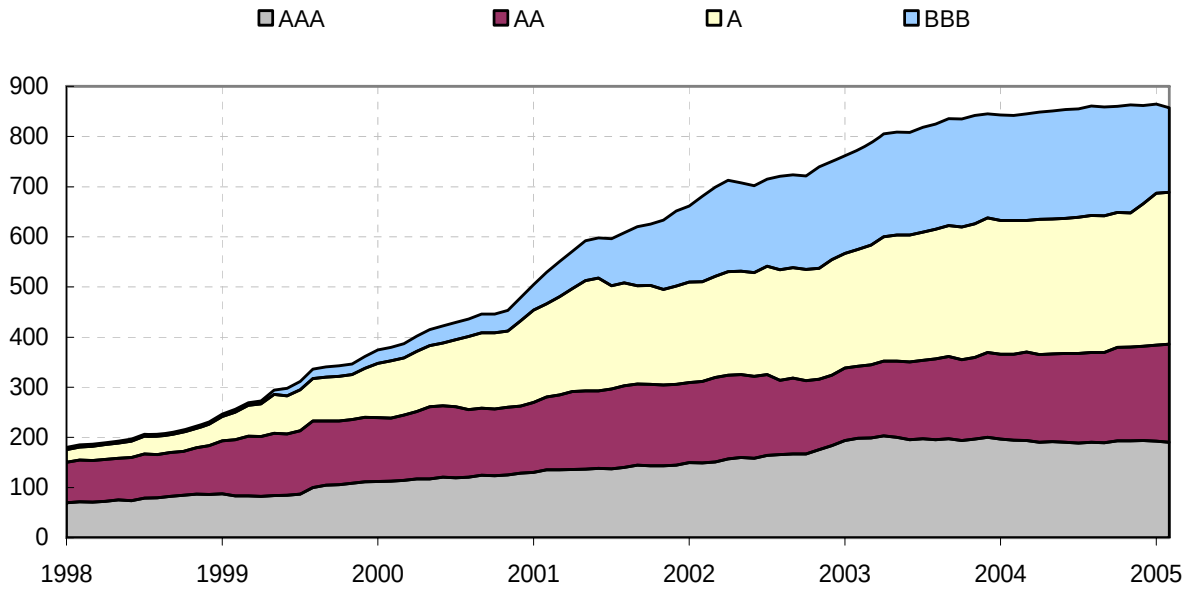
The institutional framework for the adoption of legislation fostering EU financial market integration (the so-called Lamfalussy framework) looks complicated, but is at present the most realistic way forward. It will be interesting to see whether a review of the Lamfalussy procedures in 2007 will result in any changes that will enhance the effectiveness of legislative procedures. However, the different political interests at stake make it unlikely that a unified regulatory and supervisory framework will be achieved in the foreseeable future, although this may well be the long-term target.

Legislation adopted at the EU level often reflects political compromises and requires, for EU Directives and ECB Guidelines, implementation at a national level which may potentially lead to distortions across the EU. It will be interesting to see whether the enlargement of the euro area with the adoption of the euro by the EU's ten new Member States, and the generally accepted need to further integrate the EU financial markets, will increase the willingness of policymakers to adopt generally applicable and binding Regulations. Such Regulations do not require national implementation, and, for this reason, could be considered as a better tool for achieving integration, at least in certain areas. However, the development of a Rulebook for the financial industry in the EU still seems a long way off, since the topics to be covered in such a Rulebook are quite diverse, both in form and substance.

All in all, financial market integration and the further development of a corporate bond market in the EU are a step-by-step process. The focus of this process is at present on: less but better legislation; consistent implementation and application at a national level and strengthened enforcement of such legislation; and intensified cooperation between regulatory and supervisory authorities. All of this will have benefits for both financial market integration and corporate bond market development. While legislation in this area at the EU level is often the result of political compromises, it certainly reflects the careful consideration of all parties involved and may therefore establish standards for markets outside the EU.

Annex I

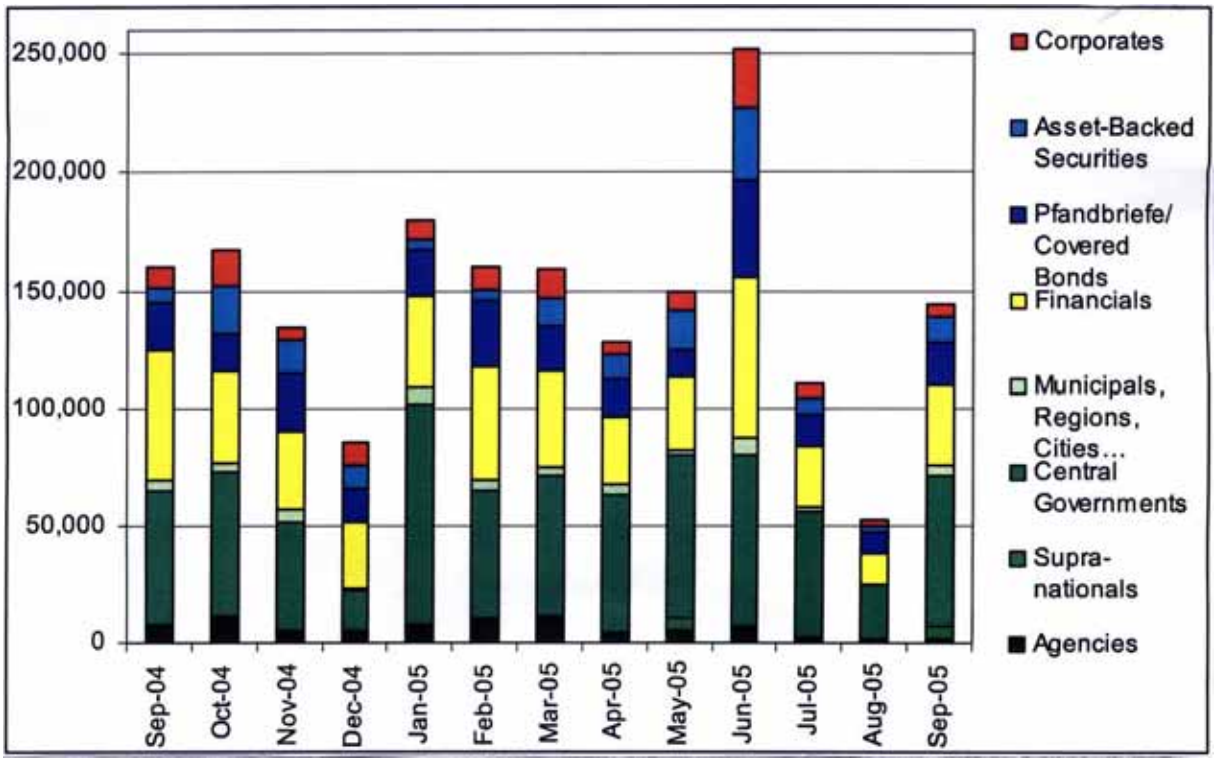
Developments in the euro area corporate bond market
Outstanding values per rating category (EUR billions)



Note: The sample is composed of 1,990 individual bonds in the Merrill Lynch EMU Corporate Bonds Index, which tracks euro-denominated investment-grade bonds with a minimum issue size of €100 million. Sub-investment-grade bonds and asset-backed securities are excluded from the analysis. In addition, bonds with less than one year to maturity, and bonds that were traded less than once a week in a given four-week time period are excluded. All euro-denominated bonds not issued in a euro area country are eliminated, as is data for countries that do not have at least ten corporate bonds at every time interval. Therefore, the analysis is based on a sample of bonds issued in seven EU countries: Austria, France, Germany, Ireland, Italy, the Netherlands and Spain.

Sources: ECB; Bloomberg.

Issuing activity (EUR millions)



Note: All figures quoted are from the DG ECFIN database unless stated otherwise. In this database, all euro-denominated issues of €50 million or more are recorded on the basis of information from various sources (notably Bloomberg and the Thomson International Financing Review). It should be noted that the database includes all issues of a maturity of one year or more (including, in particular, Italian and French discounted paper of usually significant issue amounts). Throughout this report, payment dates - as opposed to announcement dates - for new issues have been taken into account unless stated otherwise. Data are subject to revision.

Source: EU Commission, Directorate General for Economic and Financial Affairs (DG ECFIN)

Sectoral breakdown of debt securities issued by euro area residents

(EUR billions; end-of-period outstanding amounts)

	Total economy	Monetary financial institutions	Non-monetary financial corporations	Non-financial corporations
1998	6,053	2,247	190	301
1999	6,654	2,558	287	358
2000	7,128	2,777	369	435
2001	7,768	2,991	479	533
2002	8,169	3,123	559	547
2003	8,751	3,353	665	591
2004	9,415	3,714	735	595
2005[1]	10,160	4,087	852	627

[1] October 2005 figures.

Source: ECB.

Annex II

Table A

EU legal acts to foster financial market integration in the securities sector

Legal act[1]	Official Journal number	Summary of content
Council Directive of 20 December 1985 on the coordination of laws, regulations and administrative provisions relating to undertakings for collective investment in transferable securities (85/611/EEC) (UCITS Directive)	OJ[2] L 375, 31/12/1985, P. 0003	Harmonisation of competition between UCITS at EU level; also aims to achieve more effective and uniform protection for participants. UCITS are undertakings whose sole object is the collective investment in transferable securities of capital raised from the public and the units of which are, at the request of the holders, repurchased or redeemed out of the undertakings' assets.
Council Directive 93/22/EEC of 10 May 1993 on investment services in the securities field (ISD)	OJ L 141, 11/06/1993, P. 0027-0046	Liberalisation of access to stock exchange membership and financial markets in host MSs[3] for investment firms authorised to provide the services concerned in their home MS. "Single passport" for investment firms in EU and "home state" supervision.
Directive 97/9/EC of the European Parliament and of the Council of 3 March 1997 on investor-compensation schemes (ICSD)	OJ L 084, 26/03/1997, P. 0022-0031	Requirement for MSs to set up one or more investor compensation schemes; cover for claims arising from inability to repay money or return assets held on investors' behalf; a harmonised minimum level of compensation of EUR 20,000 per investor; all investment firms supplying investment services must belong to a scheme unless exempted; possibility to exclude certain investors; obligatory segregation of own and investors' assets.
Directive 98/26/EC of the European Parliament and of the Council of 19 May 1998 on settlement finality in payment and securities settlement systems (SFD)	OJ L 166, 11/06/1998 P. 0045-0050	Applicable to designated funds transfer systems and their participants; irrevocability of transfer orders; validity and enforceability of bilateral and multilateral netting arrangements; no retroactive effect of insolvency proceedings against a participant (no zero hour rule); the law governing the system determines the rights and obligations of an insolvent participant; insulation of collateral provided in the framework of participation from insolvency proceedings against a participant.
Council regulation (EC) No 1346/2000 of 29 May 2000 on insolvency proceedings, (Insolvency Regulation)	OJ L 160, 30/06/2000 P.0001-0013	Recognition of insolvency proceedings across MSs, but does not apply to the financial services sector.
Directive 2001/24 of the European Parliament and the Council of 4 April 2001, on the reorganisation and winding-up of credit institutions (WUD)	OJ L 125, 05/05/2001	Contains rules of procedure and substance relating to the winding-up of credit institutions in case of their insolvency.

Table A (continued)

EU legal acts to foster financial market integration in the securities sector

Legal act[1]	Official Journal number	Summary of content
Directive 2002/47/EC of the European Parliament and of the Council of 6 June 2002 on financial collateral arrangements (FCD)	OJ L 168, 27/06/2002 P. 0043-0050	Application of effective, simple regimes for the creation of collateral under title transfer (repo) or pledge structures ('twin track'); abolition of formalities and procedures to create and enforce financial collateral (financial instruments, cash); recognition of the right to re-use pledged collateral; protection of collateral from certain insolvency effects (through recognition of substitution, top-up collateral and close-out netting); creation of legal certainty on applicable law regarding book-entry securities by extending the principle of Article 9(2) of the SFD.
Directive 2003/6/EC of the European Parliament and of the Council of 28 January 2003 on insider dealing and market manipulation (Market Abuse Directive)	OJ L 096, 12/04/2003 P. 0016-0025	Harmonisation of rules on market abuse (insider dealing and market manipulation); common definition of abuse; same penalty in each MS for wrongful conduct; convergence of methods to combat market abuse; close cooperation of supervisory authorities (particularly cross-border).
Directive 2003/71/EC of the European Parliament and of the Council of 4 November 2003 on the prospectus to be published when securities are offered to the public or admitted to trading and amending Directive 2001/34/EC (Prospectus Directive)	OJ L 345, 31/12/2003 P. 0064-0089	Purpose is to harmonise requirements for the drafting, approval and distribution of the prospectus to be published when securities are offered to the public and/or admitted to trading on a regulated market in MSs. The Directive introduces new rules making it easier and cheaper for companies to raise capital throughout the EU on the basis of approval from a regulatory authority in one MS. It reinforces protection for investors by guaranteeing that all prospectuses, wherever they are issued in the EU, provide them with the clear and comprehensive information they need to make investment decisions.
Directive 2004/39/EC of the European Parliament and of the Council of 21 April 2004 on markets in financial instruments amending Council Directives 85/611/EEC and 93/6/EEC and Directive 2000/12/EC of the European Parliament and of the Council and repealing Council Directive 93/22/EEC (MIFID)	OJ L 145, 30/04/2004 P. 0001-0044	The main objective is to strengthen the EU legislative framework for investment services and regulated markets with a view to fostering two major regulatory aims: (1) to protect investors and safeguard market integrity by establishing harmonised requirements governing the activities of authorised intermediaries and (2) to promote fair, transparent, efficient and integrated financial markets.
Directive 2004/109/EC of the European Parliament and of the Council of 15 December 2004 on the harmonisation of transparency requirements in relation to information about issuers whose securities are admitted to trading on a regulated market and amending Directive 2001/34/EC (Transparency Directive)	OJ L 390, 31/12/2004 P. 0038-0057	Disclosure of information on the issuer: periodic (annual financial and half-yearly report, interim management statements); ongoing (events changing the breakdown of major holdings that affect the allocation of voting rights - acquisition or disposal).

[1] Legal acts listed in chronological order.

[2] OJ = the Official Journal of the European Union.

[3] MS = EU Member State.

Table B

Other EU and international initiatives to foster financial market integration in the securities sector

Initiatives[1]	Summary of content
The Hague Convention on the law applicable to certain rights in respect of securities held with an intermediary, agreed on 13 December 2002[2]	International Convention; 53 members; adopted in December 2002 in the Hague, the Netherlands; not yet entered into force; determining which countries' laws apply with regard to book-entry securities.
ESCB-CESR Standards for Securities Clearing and Settlement Systems in the EU[3] (October 2004)	Implementation of the CPSS-IOSCO Standards; no formal legal effect yet (currently impact assessment).
	Nineteen standards; Standard 1: Legal Framework - "Securities clearing and settlement systems and links between them should have a well-founded, clear and transparent legal basis in the relevant jurisdictions."
Clearing and Settlement Advisory and Monetary Group (CESAME)	Composed of high-level representatives of various private and public bodies involved in the project, including the ESCB and CESR. Chaired by the EU Commission. It is envisaged that the group will, together with the EU Commission, inter alia advise the EU Commission; interface between private and public sector bodies involved in the process; liaise with groups of experts that will tackle the legal and tax barriers to integration; and liaise with the group of 30 and other international bodies to ensure the consistency of initiatives in the EU with those developed at an international level.
EU Commission Legal Certainty project[4]	EU Commission initiative for the creation of a harmonised EU-wide framework for the treatment of book-entry securities interests. Addresses issues such as: nature of investors' rights in relation to securities held in an account with an intermediary; transfer of these rights; finality of book-entry transfers; treatment of upper-tier attachment; investor protection against insolvency of the intermediary; acquisition of rights in good faith by third parties.
Proposal for an EU Directive on Clearing and Settlement[5]	Rights for infrastructure providers and users (access, choice etc.);
	Prudential and investor protection rules;
	Governance aspects (e.g. separate accounting).
Unidroit Project on Harmonised Substantive Rules regarding Indirectly Held Securities[6]	International initiative (Australia, Canada, EU, Japan, US, etc.) to adopt an International Convention regarding substantive aspects with regard to book-entry securities.

[1] Again, listed in chronological order.

[2] http://europa.eu.int/comm/internal_market/financial-markets/hague/index_en.htm

[3] http://www.ecb.int/pub/pdf/other/escb-cesr-standardssecurities2004en.pdf

[4] http://europa.eu.int/comm/internal_market/financial-markets/docs/certainty/bnp-paribassubmission_en.pdf

[5] http://europa.eu.int/comm/economy_finance/giovannini/clearing_settlement_en.htm

[6] http://www.unidroit.org/english/publications/proceedings/2003/study/78/s-78-08-e.pdf

Annex III

Eligible assets for Eurosystem monetary policy operations

Criteria	Tier One	Tier Two
Type of asset	ECB debt certificates	Marketable debt instruments[1]
	Other marketable debt instruments[1, 2]	Non-marketable debt instruments[1]
Settlement procedures	Instruments must be centrally deposited in book-entry form with NCBs of a securities settlement system (SSS) fulfilling the ECB's minimum standards	Assets must be easily accessible to the NCB which has included them in its Tier Two list
Type of issuer	Central Banks	Public sector
	Public sector	Private sector[4]
	Private sector[3]	
	International and supranational institutions	
Credit standard	The asset must be deemed of high credit quality by the ECB (which could include an eligible guarantee of an EEA guarantor which is deemed financially sound by the ECB)	The asset must be deemed of high credit quality by the NCB which has included it in its Tier Two list (which could include an eligible guarantee of a euro area guarantor deemed financially sound by the NCB which has included the asset in its Tier Two list)
Place of establishment of the issuer	EEA and non-EEA G10 countries[5]	Euro area
Place of establishment of the guarantor	EEA	Euro area
Location of asset	Place of issue: EEA	Euro area[6]
	Place of settlement: euro area[6]	
Currency	Euro[7]	Euro[7]
Cross-border use	Yes	Yes

[1] They must have both: (a) a fixed, unconditional principal amount; and (b) a coupon that cannot result in a negative cash flow. In addition, the coupon should be one of the following: (i) a zero coupon; (ii) a fixed rate coupon; or (iii) a floating rate coupon linked to an interest rate reference. The coupon may be linked to a change in the rating of the issuer itself. Furthermore, inflation-indexed bonds are eligible. These features must be maintained until the redemption of the obligation.

[2] Debt instruments affording rights to the principal and/or the interest that are subordinated to the rights of holders of other debt instruments of the same issuer (or, within a structured issue, subordinated to other tranches of the same issue) are excluded from Tier One.

[3] Debt instruments issued by credit institutions which comply strictly with the criteria set out in Article 22 (4) of Council Directive 85/611/EEC, as amended, are eligible in Tier One. Debt instruments issued by credit institutions which do not comply strictly with such criteria may be accepted in Tier One only if they are listed or quoted on a regulated market as defined in Directive 2004/39/EC.

[4] Debt instruments issued by credit institutions which do not comply strictly with the criteria set out in Article 22 (4) of Council Directive 85/611/EEC, as amended, are normally not eligible for inclusion in Tier Two lists. However, the ECB may authorise NCBs to include such assets in their Tier Two lists subject to certain conditions and restrictions.

[5] The requirement that the issuing entity be established in the EEA or in non-EEA G10 countries does not apply to international and supranational institutions.

[6] So that perfection and realisation are subject to the law of a Member State of the euro area.

[7] Expressed as such or in the national denominations of the euro.

Developing bond markets in Asia: experience with ABF2

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1. Introduction

The second phase of the Asian Bond Fund (ABF2[2]) represents the collective efforts of central banks and monetary authorities that are members of the EMEAP[3] (Executives' Meeting of East Asia and Pacific Central Banks) group. These efforts were geared to identify and remove the impediments to the deepening of the domestic and regional bond markets. Towards this end, the implementation of ABF2 has made some inroads. The purpose of this note is to highlight some salient observations made during the process in implementing ABF2 which may promote further understanding as to the key set of issues relevant to the development of bond markets, in particular the corporate bond[4] sector, in Asia. It should be noted that the points discussed here do not represent the collective view of the EMEAP Group, which is currently conducting a comprehensive review of the ABF2 initiative.

ABF2 consists of nine component funds that invest in sovereign and quasi-sovereign local currency-denominated bonds in EMEAP markets. While the ABF2 funds do not involve corporate bonds, it is believed that the experience gained can still shed some light on the development of corporate bond markets in Asia.

This note is structured as follows: Section 2 briefly discusses the major challenges in developing bond markets, particular those for corporate bonds, in Asia. Section 3 explains in what ways ABF2 has attempted to address the challenges, namely widening investor base, enhancing market liquidity, raising price transparency and improving market infrastructure. The issue on credit rating is also discussed. The last section discusses the role of the central bank and regional cooperation in market development.

2. Challenges in developing corporate bond markets in Asia

Following the Asian financial crisis, Asian policymakers have widely recognised the importance of a deep and liquid bond market in providing a reliable source of long-term finance to corporates and in mitigating risks of currency and maturity mismatch. In particular, the bond market's financial intermediary role becomes critical in times of crisis when the other two financing channels (ie bank and equity) falter or fail. Diversity in the channels of financial intermediation is beneficial as it enhances efficiency of financial intermediation and promotes economic growth and development. Indeed, the size of the Asian bond markets has grown substantially after the financial crisis of 1997-98. However, it still lags behind developed economies in terms of breadth and depth.

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[1] Executive Director (External), Hong Kong Monetary Authority (HKMA). The HKMA chairs the EMEAP Working Group on Financial Markets, which has developed the ABF2 initiative. This note was prepared based on a presentation in the BIS/PBC Seminar on Developing Corporate Bond Markets in Asia held in Kunming, China, on 17-18 November 2005.

[2] Background information on ABF2 is set out in the Box on the next page.

[3] The EMEAP Group comprises 11 central banks and monetary authorities, namely Reserve Bank of Australia, 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, Banko Sentral ng Pilipinas, Monetary Authority of Singapore and Bank of Thailand.

[4] For the purpose of this note, corporate bonds are defined as bonds with maturity of one year and longer and not issued by sovereign or quasi-sovereign entities.

Background on ABF2

The Asian Bond Fund (ABF) is an initiative developed by the EMEAP that aims at broadening and deepening the domestic and regional bond markets in Asia. In June 2003, the EMEAP launched the first stage of ABF (ABF1), which invests in a basket of US dollar denominated bonds issued by Asian sovereign and quasi-sovereign issuers in EMEAP economies (excluding Australia, Japan and New Zealand). Building on the success of ABF1, the EMEAP has worked to extend the ABF concept to bonds denominated in local currencies and launched the second phase of ABF (ABF2) in July 2005. ABF2 comprises a total of nine component funds: a Pan-Asian Bond Index Fund (PAIF) and eight single-market funds. PAIF is a single-index bond fund investing in sovereign and quasi-sovereign local currency-denominated bonds issued in the eight EMEAP markets.[5] Each of the eight single-market funds invests in sovereign and quasi-sovereign local currency-denominated bonds issued in the respective EMEAP market. All nine funds are by design passively managed funds that seek to track the performance of pre-determined and transparent bond indices provided by iBoxx. Passively managed bond funds are a relatively new asset class in Asia.

The EMEAP group has invested a total of US$2 billion of seed money in ABF2: US$1 billion in PAIF and US$1 billion in the eight single-market funds. The EMEAP group has given careful consideration to the size of its investment such that it would neither be so large as to crowd out private sector investors nor so small as to be unable to benefit from economies of scale in terms of supporting the necessary infrastructure for the funds.

To ensure the broadest participation from all levels of investors, the component funds of ABF2 are structured either as exchange-traded funds (ETFs) or open-ended funds, depending on the regulatory and market conditions of the respective markets.

As of end 2005, PAIF and three single-market funds in Hong Kong SAR, Malaysia, and Singapore were listed, with the remaining five single-market funds to be offered in the next few months.[6]

The following factors are often cited as impeding the development of corporate bond markets in Asia:

– *Low investor participation*. With ample liquidity in the banking system, it is true that Asian banks and financial institutions have increased their appetite for bonds in recent years. Institutional investors other than banks, such as pension funds or provident funds, have also played a more active role as the amount of funds under management is growing alongside an aging population. However, retail investors' participation is still low, while in some markets, restrictions on cross-border investment in individual markets have discouraged foreign investors.

– *Low liquidity*. There is a lack of liquidity in the secondary markets for corporate bonds. Such a low degree of liquidity is often associated with the relatively small size of issues and infrequent issuance. In Asia, where there are a large number of small and medium enterprises, corporate issues are commonly constrained by the size of the balance sheet of the company. Furthermore, the buy-and-hold strategy of most bond investors further reduces the liquidity in the secondary market.

– *Low price transparency*. There is a lack of price transparency in the trading of bonds in the secondary markets. This is because the majority of bonds, particularly corporate bonds, are traded over-the-counter (OTC). This opaqueness in pricing has contributed to wide bid-ask spreads, making transactions unnecessarily costly and inefficient to investors.

– *Low credit ratings*. It has generally been observed that corporate bond issuers in Asia receive low credit ratings from the international rating agencies — below "A" for most of them. But many Asian institutional investors and official reserve managers are required to invest in bonds not lower than an "A" rating. This implies that there may exist a considerable gap between the credit ratings of the issuers and what the Asian investors, in both the public and private sector, are prepared to accept. Thus, the great majority of potential corporate issuers have been denied access to the huge pool of savings in the region.

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[5] The eight EMEAP markets are: China, Hong Kong SAR, Indonesia, Korea, Malaysia, Philippines, Singapore and Thailand.

[6] For further details on the background of ABF2, please see: G. Ma and E Remolona, 2005, "Opening markets through a regional bond fund: lessons from ABF2", *BIS Quarterly Review*, June, pp 81-92.

– *High taxation*. Withholding taxes and taxes on financial transactions remain prohibitively high for non-resident investors in some markets. For instance, in Korea, the withholding taxes on interest income applicable to non-resident investors and taxes on capital gains derived from holding of bonds can be as high as 27.5%, discouraging foreign investor participation in the local bond market.

3. Experience with ABF2

The component funds of ABF2 invest in sovereign and quasi-sovereign local currency-denominated bonds in EMEAP markets. Notwithstanding the fact that ABF2 is concerned with bond funds, we faced similar issues, as mentioned above, in taking forward the initiative. As such, the experience gained from the implementation of ABF2 may be helpful as we consider how to further develop corporate bond markets in Asia. In particular, we discuss below how ABF2 addresses such challenges as widening investor base, enhancing market liquidity, raising price transparency and improving market infrastructure. The issue of credit ratings is also discussed.

A. Broadening the investor base

A primary question in the ABF2 initiative is how to design a bond fund that would appeal to a broad investor base (whether retail or institutional) and facilitate access by investors including local and foreign investors. Specifically, we compare below the experience gained from the two funds listed in Hong Kong SAR, namely PAIF and the Hong Kong Bond Index Fund, to highlight factors that may affect investor interest. This is followed by a discussion of the removal of regulatory and market impediments to facilitate foreign access in various economies, and also of efforts to adopt best international practice in the ABF2 funds as part of the attempt to appeal to foreign investors.

(i) Acceptance of PAIF and the Hong Kong Bond Index Fund

PAIF and the Hong Kong Bond Index Fund have made some inroads in gaining investors' acceptance as reflected by the decent growth of the two funds in terms of the asset size (Table 1) since their listing in Hong Kong SAR.[7] Notwithstanding the rising interest rate environment, the Hong Kong Bond Index Fund has grown by 49% although PAIF has grown more moderately by 13%.

There are three main factors which have contributed to the impressive growth of the Hong Kong Bond Index Fund: a) low cost of participation, b) appeal to retail investors through the launch of a savings plan, and c) appeal to institutional investors with Hong Kong dollar liabilities.

The entry threshold for investing in ABF2 is intentionally kept low so as to encourage participation of individual investors. The trading board lot size applicable to PAIF is 10 units while that for the Hong Kong Bond Index Fund is 100 units only. That means the minimum amount of investment can be as low as US$1,000 for PAIF and US$1,300 for the Hong Kong Bond Index Fund. As they are ETFs, the brokerage commissions (generally 0.25%, charged at brokers' discretion) and other charges for trading PAIF and the Hong Kong Bond Index Fund are as low as that for the trading of stocks, hence enhancing their attractiveness to those individual investors who are experienced stock market participants. The cost advantage of ETFs is most notable when compared with other bond funds currently available on markets. For PAIF, there is no subscription fee. The management fee is about 16 basis points per annum and the total expense ratio is approximately 30 basis points per annum. But for most actively managed bond funds, the subscription fee varies from 3% to as much as 5%. The management fees range from 0.75% to 1.25%, with total expense ratios exceeding 1.5% per annum. Such high transaction costs for actively managed funds deter investor participation.

[7] The Hong Kong Bond Index Fund on 21 June and the PAIF as listed on 7 July 2005.

Table 1

Performance of PAIF and of the Hong Kong Bond Index Fund

As at end-November 2005 (in thousands of USD)

	PAIF	Hong Kong Bond Index Fund
Net asset value	1,126,359	270,900
- Growth in amount*	127,789	88,900
- Growth in percentage*	13%	49%
Daily average turnover	93	813

*The difference between the net asset value and the initial seed money contributed by the EMEAP Group.

Source: Bloomberg.

To further facilitate investment at retail level, the fund manager of the Hong Kong Bond Index Fund has worked with commercial banks to introduce a savings plan which allows individual investors to invest as little as US$130 monthly in the Hong Kong Bond Index Fund. Two of the largest commercial banks in Hong Kong SAR have participated in the scheme, which offers to automatically deduct a pre-agreed amount of deposits from the client's bank account for investment in the Hong Kong Bond Index Fund. Such an averaging method of investment not only allows a further reduction in the effective entry threshold for investment but also helps minimise the cost to poor market timing decisions by retail investors.

Much of the increase in the asset size of the Hong Kong Bond Index Fund was contributed by institutional investors, eg pension funds or provident funds. The Hong Kong Bond Index Fund seems to provide a good match to their Hong Kong dollar liabilities.

PAIF, despite its low cost features similar to those of the Hong Kong Bond Index Fund, seems to be taking a slower start. PAIF which offers access and exposure to eight markets in Asia in one go is a brand new asset class. Feedback from State Street Global Advisors, the fund manager for PAIF which has conducted numerous roadshows in Japan, Europe and the US to market the fund, suggests that this asset class is gaining more acceptance among Japanese investors (such as Japanese banks), but less so among traditional pension funds and other institutional investors in US and Europe. This is not helped by the low management fee embedded in the passively managed fund. The 15 basis points in management fee for PAIF's fund manager have meant that the budget for marketing is limited. There is also little room for providing incentives to distributors in individual markets. It is useful to note that Standard & Poor's Depository Receipts (commonly known as "spiders"), the first ETF offered in the US, took three years since launch before they took off to become a success phenomenon in the 1990s.

(ii) Removal of cross-border impediments

ABF2 was instrumental in the lifting of cross-border restrictions to allow greater participation of foreign investors in several markets.

PAIF was the first foreign investor that obtained permission to invest in both exchange-traded bonds and interbank traded bonds in Mainland China, and to enjoy flexibility in the repatriation of proceeds. Qualified Foreign Institutional Investors (QFII), for example, may only invest in exchange-traded renminbi bonds, subject to various limits on investment and repatriation.

In Malaysia, the foreign exchange administration rules have been liberalised to facilitate cross-border investment, including the access by PAIF. The Malaysian authorities have also lifted all restrictions on non-resident hedging activities. Companies controlled by non-residents now enjoy full access to onshore credit facilities in local currency. In Thailand and Malaysia, domestic bond markets have been opened to issuance by multilateral agencies and non-resident investors are now exempted from withholding tax.

(iii) Adoption of international practice

Observance of best international practice would likely encourage greater foreign investor participation. The PAIF-related documents such as trust deed and prospectus were carefully drafted in line with international standards and best practices. They serve as a model in the drafting of fund documents for other ABF2 Funds, therefore helping to promote the adoption of international standards among the EMEAP markets.

That said, the work on documentation of the component funds of ABF2 is extremely taxing, given the diverse regulations and standards required in individual EMEAP markets. One illustrative example is the valuation of the component funds of ABF2. To protect investors, the EMEAP suggested having the trustee conduct the valuation of the funds since the trustee, unlike the fund manager, should not have a vested interest in the fund performance. This is also a common practice in developed markets. But, in most EMEAP markets, there are local regulations requiring fund mangers to perform the valuation instead. After lengthy discussions with relevant regulators, the EMEAP finally determined that the fund managers might perform the valuation as required by local regulation but, as an additional safeguard, the verification of the figures by trustees would be required.

B. Enhancing market liquidity

The lack of liquidity deters investors as they are likely to face high costs of transaction. To enhance market liquidity of the ABF2 funds, a market-making mechanism, which is common in the trading of government securities, has been adopted where possible to ensure the tightness of bid-ask spreads in the trading of the ABF funds on the stock exchanges. In implementing ABF2, we found out that it was not at all an easy task to sign up financial institutions as market-makers since they would need to make system changes and bring together two different profit centres, namely the equity team (with access to the exchange) and the fixed income team. Both monetary incentives (eg waivers of dilution levies) and non-monetary incentives (eg the right to do partial in-kind creation) have been provided, which helped sign up two market-makers for each of PAIF and the Hong Kong Bond Index Fund.[8] For PAIF, securities lending facilities for its units are available so as to facilitate market-makers to manage their position.

The market-making arrangements have proved to be effective in maintaining tight bid-ask spreads. For instance, the average bid-ask spread for PAIF was roughly US$0.16 (compared to a traded price of US$98.30 per unit[9]) and for the Hong Kong Bond Index Fund it was HK$0.08 (compared to a traded price of HK$98.76 per unit[10]). Such spreads were narrower than that commonly observed for Asian corporate bonds.

In considering ways to enhance liquidity for corporate bond markets, a relevant question is whether a market-making mechanism may be instituted in the trading of corporate bonds. One reason why financial institutions are even more reluctant to be market-makers for corporate bonds is precisely the illiquidity of corporate issues. As many investors adopt a buy-and-hold strategy, there may not be sufficient liquidity to develop a repo or security lending market for market makers to manage their exposures. Consideration should therefore be given to encouraging the development of a repo or security lending market.

C. Raising price transparency

Transparency enhances market efficiency and fosters investor confidence. Numerous studies in the US have shown that increased transparency about traded price has led to narrower bid-ask spreads for corporate bonds.[11] The structuring of the ABF2 funds as bond ETFs would indeed raise the

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[8] HSBC and Deutsche Securities Asia.

[9] Reference price as at 30 November 2005.

[10] Reference price as at 30 November 2005.

[11] Edwards, A K, L S Harris and M S Piwowar (2005) "Corporate Bond market transparency and transaction costs", US Securities and Exchange Commission.

transparency of trading, with order flows and trade information made available to participants, to the regulatory authorities and to the public. Also as the ABF funds are passively-managed bond index funds, transparency and representativeness of the benchmark bond indices are critical to ensure accurate valuation and replicability of the index performance. The ABF2 funds have chosen the iBoxx ABF family of indices because its platform is considered better than that of the single-firm index providers. iBoxx uses multiple sources for valuation of bond prices and adopts transparent construction rules to ensure that the benchmark index performance can be tracked closely by fund managers. Notwithstanding its multiple-pricing structure, iBoxx is faced with many technical issues, one of which is the valuation of bonds that hardly trade at all.

D. Improving market infrastructure

The iBoxx ABF family of indices was considered an important piece of infrastructure introduced in Asia. In addition, a number of single-market funds are structured as bond ETFs, and as such, the supporting market infrastructure is very demanding. For example, the clearing and settlement system for equities and that for debt securities must be linked up to facilitate in-kind creation and redemption of fund units. The ABF2 funds have thus accelerated the linking up of these two systems in some markets. Moreover, the global custodian for PAIF and the eight single-market funds has successfully established Asia's first custodian network linking up all eight markets.

E. Credit ratings

Credit ratings are an area where ABF2 hasn't done much to address. Due to various practical reasons, PAIF has not been rated. Instead, the weighted average rating of the debt securities in PAIF is computed and disclosed so as to assist investors in determining the level of credit risk that they may take.

The computed rating is "A-" for PAIF's basket of sovereign and quasi sovereign issues, the best quality assets in Asia. Even so, feedback from the marketing of PAIF indicates that the "A" rating is still not satisfactory enough for large institutional investors with rather conservative investment strategies. For example, multilateral development banks with exposures in the region can only invest in credits rated "AA" or above.

The problem would be even more acute with corporate bonds, the credit ratings of which would be even lower than those of sovereigns. In this connection, it is important to examine ways such as credit enhancement and guarantee mechanisms (currently studied by the ASEAN+3 forum) which may help overcome this barrier.

4. The role of central banks and regional cooperation

One of the questions often asked about ABF2 is why central banks should be involved. Some might argue that the private sector's involvement in the market would suffice without central banks being present. However, one should note that market may fail from time to time. Where there is a gap, there may be a need for the public sector to come in. Moreover, regulatory and market reforms are a public good, and the chance for the private sector to initiate costly and lengthy lobbying efforts for regulatory and market reforms is rather slim.

That said, the ABF2 experience represents cooperation between the public and private sectors. It has drawn not only on the experts within the central banks but also on the private sector fund managers, independent index provider, custodians, all of them were selected in a competitive process. ABF2 provides a model of cooperation between the public and private sectors on a project of this scale.

The ABF2 initiative thus marks an important milestone in central banking cooperation. While the initiative has yielded many practical results in deepening and broadening the Asian bond market, many more impediments have been identified in the process but not yet addressed. As the EMEAP group reviews its experience with ABF2 and considers implications for the corporate bond market, I am certain that the momentum for cooperation will not be lost in exploring new ways to collectively tackle the barriers to development.

The corporate debt market in India

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Reserve Bank of India

1. Introduction

The Asian financial crisis of 1997-98 underscored the limitations of even reasonably regulated, supervised, capitalised and managed banking systems. The primary role of a banking system should be to create and maintain the liquidity needed to finance production within a short-term time horizon. The crisis showed that banking systems cannot be the sole source of long-term investment capital without making an economy vulnerable to external shocks. Against this backdrop and based on experience, it has been argued that bond financing reduces macroeconomic vulnerability to shocks and systemic risk through diversification of credit and investment risk.

From the perspective of developing countries, a liquid corporate bond market can play a critical role in supporting economic development. First, it supplements the banking system to meet the requirements of the corporate sector for long-term capital investment and asset creation. Second, it provides a stable source of finance when the equity market is volatile. Third, a well developed liquid corporate debt market has become even more crucial as an alternative source of finance since the decline in the role of development financial institutions (DFIs).

There has been no one process through which corporate bond markets have developed. However, based on experience from around the world, we can say that there are a number of preconditions for the growth of a local corporate bond market. We outline them below.

1. The share of the private sector in the economy is large and its financing requirements are met directly by the market through the issue of both equity and debt instruments.
2. Interest rates are completely deregulated, and financial markets integrated.
3. The government securities market is well developed, so that it can provide the benchmark yield curve for bond pricing.
4. Clearing and settlement systems are up to date, in terms of both infrastructure and investor protection. A well functioning depository system is in place for ease of issuance and trading.
5. There is a regulatory framework that provides for adequate disclosure, accounting standards, proper corporate governance and the like.
6. Laws are enacted to provide for regulatory oversight and investor protection.
7. A credible system of experienced rating agencies exists in order to get opinions about debt issues into the public domain.
8. The government has a clear policy with respect to the development of the corporate bond market.

Insofar as the preconditions for the development of a corporate bond market are concerned, India is fairly well placed. There is a developed government securities market that provides a dependable yield curve. The major stock exchanges have trading platforms for debt securities. The existing depository system has been working well. The Clearing Corporation of India Limited (CCIL) has been successfully settling government securities, foreign exchange and other money market transactions,

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and the settlement system has improved significantly in recent years. Settlement of government securities moved to a delivery vs payment system (DVP III)[2] on 29 March 2004, and the equity settlement cycle was reduced to T+2 on 12 March 2003. Real-time gross settlement (RTGS) has become operational for commercial bank transactions in several cities over the past year. Last but not least, there are several rating agencies in India with sound credit assessment capability and good track records.

The Securities Exchange Board of India (SEBI) and the RBI have taken steps, especially for improving transparency through appropriate regulations, viz. compulsory holding of securities in dematerialised form, limiting investment in unlisted paper, prescribing disclosure requirements for private placements by listed companies, mandating use of the order matching system of stock exchanges, etc. However, for further development of the market, some more issues need to be tackled in a concerted manner. Following the budget proposals for 2005-06, the Finance Minister has appointed a High-Level Expert Committee on Corporate Bonds and Securitisation to look into the legal, regulatory, tax and market design issues in the development of the corporate bond and securitisation market. The Committee is expected to submit its report shortly.

2. Main features of the Indian corporate debt market

2.1 Relative size and importance

For most developing countries, where dependence on bank loans is substantial, corporate bond markets are small, marginal and heterogeneous in comparison with corporate bond markets in developed countries. India has had a bank-dominated financial system. As a source of funds for the corporate sector, the share of the domestic capital market (debt plus equity) was 10.4% in FY[3] 2004-05 (April-March) while that of domestic borrowings from banks and financial institutions was 34.7%. In addition, corporations can have recourse to the overseas markets for raising equity, debt or loans. In recent times, the share of loans raised abroad has been significant - 23.3% in 2004-05.[4] The dominance of the banking system can be gauged from the fact that the proportion of bank loans to GDP is approximately 36%, while that of corporate debt to GDP is only 4% or so. By the same measure, the government securities market is nine to ten times as large as the corporate debt market.

The corporate debt market in India has been in existence since Independence. Public limited companies have been raising capital by issuing debt securities in small amounts. State-owned public sector undertakings (PSUs) that started issuing bonds in FY 1985-86 account for nearly 80% of the primary market. Due to falling interest rates and adequate availability of funds, corporate issuance has shown a noticeable rise in recent years (Table 1). The reduction in the share of debt in total resource mobilisation in the last two years can be attributed to buoyant equity markets.

[2] In the DVP III mode of settlement, both the securities leg and funds leg of transactions are settled on a net basis.

[3] Financial Year.

[4] RBI Annual Report.

Table 1

Resource mobilisation by the corporate sector

(INR billions)

FY[1]	Public equity issues	Debt issues			Total resources (2+5)	Share of private placements in total debt (4/5*100)	Share of debt in total resource mobilisation (5/6*100)
		Public issues	Private placements	Total (3+4)		(%)	(%)
1	2	3	4	5	6	7	8
2000-01	24.79	41.39	524.34	565.73	590.52	92.68	95.80
2001-02	10.82	53.41	462.20	515.61	526.43	89.64	97.97
2002-03	10.39	46.93	484.24	531.17	541.56	91.16	98.08
2003-04	178.21	43.24	484.28	527.52	705.73	91.80	74.75
2004-05	214.32	40.95	553.84	594.79	809.11	93.12	73.51

[1] Financial Year (April – March).

Sources: Prime Database*; Indian Securities Market Review*, National Stock Exchange (NSE).

When compared with the government securities market, the growth of the corporate debt market has been less satisfactory; in fact, it lost share in relative terms until FY 2004-05 (Table 2).

Table 2

Resources raised from the debt markets

(INR billions)

Financial year	2000-01	2001-02	2002-03	2003-04	2004-05
Total debt raised	1,850.56	2,040.69	2,350.96	2,509.09	2,050.81
Of which: corporate[1]	565.73 (31%)	515.61 (25%)	531.17 (23%)	527.52 (21%)	594.79 (29%)
Of which: government	1,284.83 (69%)	1,525.08 (75%)	1,819.79 (77%)	1,981.57 (79%)	1,456.02 (71%)

[1] Excluding euro issues.

Sources: RBI; NSE; Prime Database.

2.2 Private placements

The bulk of debt raised has been through private placements (Table 1). During the last five years, private placements, on average, have accounted for nearly 92% of the total corporate debt raised annually. The dominance of private placements has been attributed to several factors, including ease of issuance, cost efficiency and primarily institutional demand. PSUs (at both the central and state government level) account for the bulk of private placements. The corporate sector has accounted for less than 20% of total private placements in recent years, and of that total, issuance by private sector manufacturing/services companies has constituted only a very small part. In 2004-05, the bulk (64%) of fund-raising through private placements was by financial institutions and banks (in both the public and private sectors). Note that large private placements limit transparency in the primary market.

2.3 Preference for rated paper

Ratings issued by the major rating agencies have proved to be a reliable source of information. The data on ratings suggest that lower-quality credits have difficulty issuing bonds. The concentration of turnover in the secondary market also suggests that investors' appetite is mainly for highly rated instruments, with nearly 84% of secondary market turnover in AAA-rated securities. In addition, the pattern of debt mutual fund holdings on 30 June 2004 showed that nearly 53.3% of non-government security investments were held in AAA-rated securities, 14.7% in AA-rated securities and 10.8% in P1+ rated securities.

3. Market structure

3.1 Primary market

The primary market for corporate debt securities can exhibit certain features that limit their secondary market liquidity. These limiting features include: 1) "buy and hold" strategies legitimately followed by most institutional investors in corporate debt securities; 2) small issue sizes that fulfil the specific needs of the issuer or investor; 3) stringent investor protection guidelines in the primary market; 4) imperfections in the tax structure; 5) mandatory investment in government bonds; 6) lack of proper market infrastructure; and 7) the inability of small- and medium-size enterprises to access the debt markets.

Broadly speaking, there are four types of investor: 1) banks and financial institutions; 2) insurance companies, provident funds and pension funds; 3) mutual funds; and 4) retail investors. From the point of view of prudence, investment guidelines for institutional investors make a number of stipulations regarding permitted holdings, ie class of paper, percentage of the corpus, rating of the debt securities, etc. Since institutions are the principal market players, their participation has a significant bearing on the development of the primary market. We discuss these below.

3.1.1 Banks and financial institutions

As noted earlier, banks and financial institutions have been the main issuers of debt instruments. The data in Table 3 show that they dominate on the investment side as well.

However, the contribution of banks and financial institutions through investment remains small as a proportion of the total resources mobilised by the banking system. The position improves dramatically when we compare the investment contribution with the credit extended to medium-sized and large enterprises, instead of with total conventional bank credit. (We make this second comparison on the grounds that only medium-sized and large enterprises have the ability to raise resources from both the loan and capital markets.)

The nationalised banks are generally active investors in PSU bonds and Tier 2 bonds of other banks. Corporate bonds can be construed as quasi-loans if they are issued privately on mutually agreed terms. In the recent past, due to competitive pressures and abundant liquidity, banks had been lending through this quasi-loan route to highly rated corporations at rates much below their prime lending rate.

Table 3

Investment in corporate debt by banks and financial institutions

(INR billions)

Instrument	End-March 2003	End-March 2004	End-March 2005
Commercial paper	40	38	39
Units of mutual funds	63	118	126
Shares	102	97	134
Bonds/debentures	1,132	1,124	1,137
Total	**1,337**	**1,377**	**1,436**
Conventional bank credit	7,079	8,157	10,688
Of which: granted to medium-sized and large enterprises	2,352	2,472	2,902

Source: RBI Annual Report.

3.1.2 Insurance companies, and provident and pension funds

Pension funds are the principal investors in corporate bonds in the United States and other developed markets, providing much-needed long-term capital. In India, the provident and pension funds are required to invest in accordance with prescribed guidelines that are orientated towards safety of the funds. As a result, the preference has been for government securities and bonds of public sector entities. A very small proportion (10% of accruals to the fund in a year) is available on a voluntary basis for investment in private sector bonds. Of the total corpus of statutory provident funds (including the Employees Provident Fund) amounting to INR 1,750 billion as on 31 March 2004, INR 490 billion[5] was invested in corporate bonds (mostly those issued by public sector entities). As is the case with the life insurance companies, their interest is in longer-dated paper.

3.1.3 Mutual funds

Mutual funds lend support to the corporate debt market mainly through their participation at the shorter end of the yield curve. Unlike some of the other investors, the mutual funds are susceptible to volatile inflows/outflows, and therefore, to an extent, secondary market activity in the corporate debt market is guided by their behaviour, ie volumes go down when the total corpus of mutual funds goes down and vice versa. The data in Table 4 illustrate the dynamic changes in the asset profile of the mutual funds.

3.1.4 Retail participation

India's gross domestic savings amounted to INR 6,717 billion in FY 2003-04, accounting for 24.3% of GDP. Retail investors' investment in financial assets represents around 47% of their total savings, and is broadly invested as follows: bank deposits - 36.7%; small savings schemes, etc - 15.5%; provident and pension funds - 14.1%; and life insurance policies - 12.8%. Their investment in shares and debentures of private corporate business is very marginal (1.1%). According to preliminary data for 2004-05, the shares of bank deposits and small savings schemes have risen to 37.1% and 19.0% respectively, while the share of investment in shares and debentures is practically unchanged at 1.4%.[6]

The principal factors driving retail investment are tax benefits, returns, liquidity and safety. Perhaps the investment needs of the individual are adequately met through bank deposits and the small savings

[5] Source: EPFO Balance Sheet and IDBI Capital Markets Ltd.

[6] Source: Central Statistical Organisation.

schemes offered by the government. Furthermore, currently the returns on the small savings schemes are much higher than those on bank deposits, government securities or highly rated corporate debt. Insofar as marketable instruments such as shares and debentures are concerned, a retail investor can buy or sell on the exchanges through a broker, or participate indirectly through a mutual fund. In India, banks do not offer a buy/sell facility for retail investors in stocks or bonds across their branch networks. Finally, in the case of corporate bonds, due to poor liquidity in the secondary markets, the cost of entry/exit can be prohibitive for the retail investors.

Table 4

Assets under management by mutual funds

(% of total)

Instrument	End-March 2003	End-March 2004	End-March 2005
Debt	59.9	44.8	31.6
Equity	12.4	16.9	25.6
Money market instruments	17.3	29.9	35.9
Government securities	4.9	4.3	3.0
Others	5.5	4.1	3.9
Total	**100.0**	**100.0**	**100.0**

Source: Association of Mutual Funds in India.

3.2 Secondary market

The secondary market plays a number of key roles, including: providing effective price discovery; shifting risk; pricing new issues; offering an alternative mode of investment; aiding management of resources; and enforcing discipline on the issuer. As mentioned earlier, a few problems hampering the growth of the secondary market are linked to the primary market. In a nutshell, corporate bonds are issued in small quantities, subscribed to by institutional investors and held to maturity. Not surprisingly, trading in corporate debt accounts for only 3% or so of the total debt traded in the market. Moreover, the trading is concentrated in few securities, with the top five to 10 traded issues accounting for the bulk of total turnover. The secondary market for retail trades is minuscule, accounting for only 0.03% of the total trading volume in FY 2003-04.[7]

Several measures have been taken by regulators to promote the corporate debt market, especially the secondary market. Banks, financial institutions and primary dealers have been asked to hold bonds and debentures, privately placed or otherwise, in dematerialised form only. In addition, SEBI has already mandated that all bond trades on the Bombay Stock Exchange and National Stock Exchange be executed on the basis of price/order matching, as is done in the case of equities. However, this regulation does not apply to bilateral trades settled within two days. Listed companies making debt issues on a private placement basis are also required to comply with disclosure requirements. There are also restrictions on the extent to which regulated entities can hold unlisted corporate paper.

Consolidation of primary market issues is critical for the development of the secondary market. In order to improve the liquidity of a bond - and therefore the demand for it - it is desirable to reach critical mass in that particular issue. Some of the advantages of reissuing existing bonds for the purpose of consolidation are: 1) improved liquidity in the particular bond; 2) better information about the bond; and 3) more accurate valuation of the bond. As consolidation reduces the demand for a liquidity premium,

[7] Source: National Stock Exchange Fact Book.

the issuer enjoys a lower cost of borrowing. However, it should be kept in mind, that unlike a sovereign issuer that frequently accesses the market, a corporate issuer has little incentive to work towards the development of the market.

Similarly, adoption of standardised market conventions as in the case of government securities for day count, interest on delayed payments, bond covenants, trading, reporting, and market valuations are all necessary for development of the secondary market. The other measures aimed at improving market liquidity relate to the appointment of market-makers for corporate bonds, permitting repos in corporate bonds, etc.

3.3 Trading, clearing and settlement

Trading in India's corporate debt market is largely over-the-counter and dominated by institutions. Deals are struck either directly between counterparties or through the intermediation of brokers over the phone. Trades facilitated by brokers have to be reported to the exchange by them, which aids post-trade information dissemination. In addition, corporate bonds are also traded through the electronic order book system on the exchanges. However, this method is not very popular due to lack of retail interest in marketable debt instruments.

Unlike the government securities market, the corporate debt market does not have a clearing and settlement infrastructure in place. Transactions are settled bilaterally, with the seller giving instructions to the depository for transfer of the security, and then receiving the cheque from the buyer. In the absence of DVP, the seller is at higher risk than the buyer, as he is required to part with the security before receiving payment. However, in the case of trades on the stock exchange, settlement occurs through the associated clearing house/corporation.

There is a recognised need for compulsory trade reporting to a central authority by all participants, and a structured clearing and settlement system for corporate debt.

4. The structured finance market

Securitised debt is yet another investment avenue offering higher risk-adjusted returns to investors, customised solutions for borrowers and a balance sheet management tool for originating banks and institutions. Over the last decade, the Indian markets too have recognised the immense potential that securitisation has to offer, with the result that structured finance has grown exponentially (Table 5). Nonetheless, there are some legal, regulatory, taxation and other issues that need to be addressed for facilitating the growth of securitisation in India. Illustratively, securitised debts are not included under the Securities Contract Regulation Act and hence cannot be listed in a stock exchange, thereby inhibiting secondary market trading. Further, securitisation done through special purpose vehicles in the form of trusts is non-taxable whereas a corporate structure for special purpose vehicles is taxable.

Asset-backed securities (ABS) are not only the dominant structured product category, but also the fastest-growing. The growth of the ABS market can be attributed to a number of factors, including: 1) the growing retail loan portfolios held by banks and other financial institutions; 2) investors' familiarity with the underlying asset class; 3) the relatively short tenor of such issues; and 4) the stable performance of past pools. Growth of the mortgage-backed securities (MBS) market, on the other hand, has been slow, despite the underlying growth in the housing finance market. Factors impeding the growth of the MBS market include: 1) the relatively long tenor of MBS; 2) a lack of secondary market liquidity; and 3) the prepayment/interest rate risk arising from prepayment/repricing of the underlying loans. As regards corporate debt obligations, the growth has been tardy because the investment decisions are often influenced by the "base rating" of the underlying corporate assets in the corporate debt obligations pool and not on the rating of the instruments. Similarly, the partial guarantee structures have not been popular for enhancing the rating of debt obligations.

Table 5

Trends in issuance volumes

(INR billions)

Structure	2002	2003	2004	2005
Asset-backed securities	12.9	36.4	80.9	222.9
Mortgage-backed securities	0.8	14.8	29.6	33.4
Corporate debt obligations/ loan sell-offs	19.1	24.3	28.3	25.8
Partial guarantee structures	4.0	1.9	–	16.0
Others	0.0	0.4	0.5	10.0
Total	**36.8**	**77.7**	**139.2**	**308.2**

Source: Investment Information and Credit Rating Agency of India.

5. Foreign investment

Currently, foreign institutional investors (FIIs) registered with SEBI are allowed to invest a maximum of USD 1.75 billion in government securities and treasury bills, and USD 500 million in other debt securities without any minimum maturity or holding period restrictions. These modest amounts are more in the nature of treasury management tools for FIIs which operate in the equity markets.

While the need for foreign capital, particularly for infrastructure development, is recognised, any increase in limits will depend on the market acquiring more depth and liquidity (to withstand the flows), as well as on convergence between domestic and overseas interest rates (to prevent speculative flows).

6. Looking ahead

For most developing countries, where dependence on bank loans is substantial, corporate bond markets are small, marginal and heterogeneous in comparison with corporate bond markets in developed countries. India has a bank-dominated financial system that was, until recently, supplemented by DFIs specialising in project finance. First, because of the conversion of DFIs into banks, an institutional gap for long-term finance now exists in India. Second, for the commercial banks themselves, the proportion of long-term deposits (longer than five years) to total deposits is showing a declining trend. Because of regulations relating to debt issuance and asset-liability management, banks may not be able to fill the gap in long-term finance. Third, Indian enterprises now have the ability to raise funds in foreign capital markets. Indeed, an underdeveloped domestic market can push the better-quality issuers abroad, thereby accentuating the problems of developing the corporate debt market.

The ability to raise funds efficiently has implications for the overall growth of the economy. The development of the corporate debt market, therefore, remains critical for achieving and sustaining high growth rates of 8% or so.

Development of Japan's credit markets

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Bank of Japan

Introduction

This paper examines the development of the corporate bond market in Japan. Other credit products are also reviewed because they are important for understanding the bond market.

The paper is organised as follows. Section 1 considers the corporate bond market. Sections 2 and 3 consider the syndicated loan and securitisation markets, respectively, both of which the Bank of Japan (BOJ) plays a role in developing. Section 4 looks at yen-denominated foreign debt, or the so-called "Samurai bond" market, which offers a solid infrastructure for Japanese investment in Asian companies. Section 5 touches on credit derivatives, and Section 6 provides some conclusions.

1. The corporate bond market

A comparison with bank loans is a useful first step for understanding Japan's corporate bond market. Historically, the credit market in Japan has been dominated by bank loans, and this is true even now, as shown in Graph 1. However, the outstanding amount of bank loans has declined in the last decade, while direct financing through the corporate bond market has more than doubled.

A more detailed analysis will help illuminate the history of the market. Graph 2 shows the net flows of corporate bonds and bank loans. Loans increased in the 1980s, but after the bubble economy burst in the early 1990s, they started to decrease dramatically. The financial crisis in 1997-98 further accelerated the decrease in bank loans because banks faced serious credit problems and could no longer continue lending to firms. Firms had to look elsewhere for finance, with the result that corporate bonds partially took over the role of bank loans - making the financial crisis the turning point for the development of the corporate bond market. The bond market has now levelled off and the credit recovery at banks is enabling bank loans to crowd out corporate bonds.

Deregulation is another driving factor behind the development of the corporate bond market. The abolition of the "issue standards" in 1996, under which only limited firms could issue bonds, was a prerequisite for market growth.

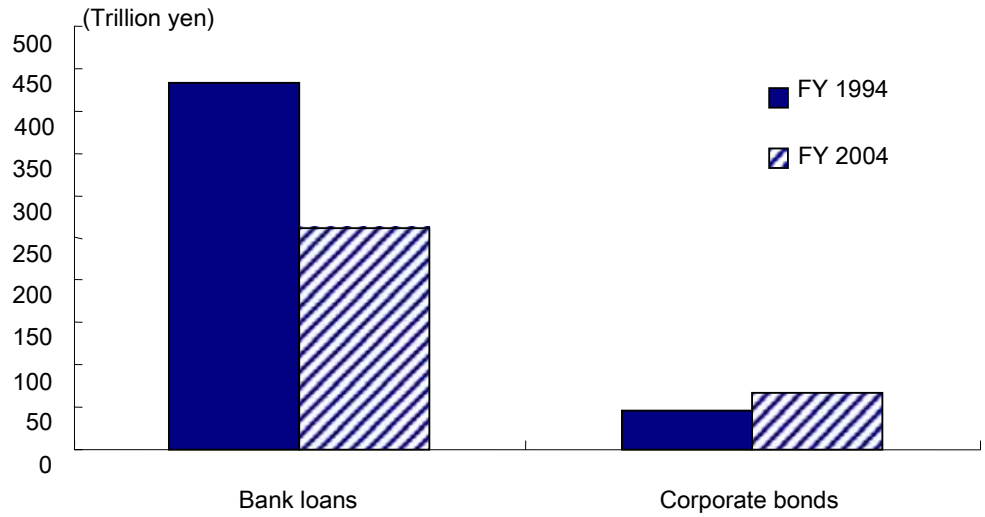
Japan's corporate bond market is characterised by the domestic nature of its investor base. Indeed, most investors are Japanese players, such as local pension funds and insurance companies willing to accept the low credit spreads that, historically, foreign investors would not. In other words, domestic demand for credit risk is strong and absorbs the private sector's need for financing.

Credit ratings have also played an important role in the growth of Japan's corporate bond markets. As shown in Graph 3, foreign as well as local agencies cover Japanese issuers, providing multi-credit ratings that help investors to make appropriate decisions.

[1] Deputy Director, Financial Markets Department, Bank of Japan.

Graph 1

Outstanding amounts of loans/bonds

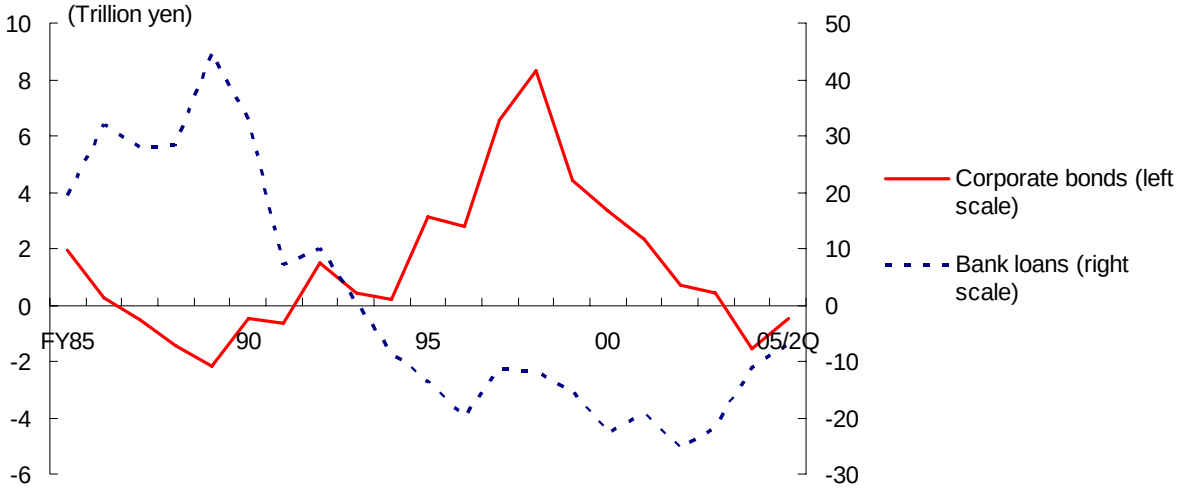


Note: The outstanding amount of corporate bonds in FY94 has been estimated by the BOJ. Privately issued bonds are excluded from corporate bonds.

Sources: BOJ "Flow of Funds"; IN database; Japan Securities Dealers Association.

Graph 2

Net flow of corporate bonds

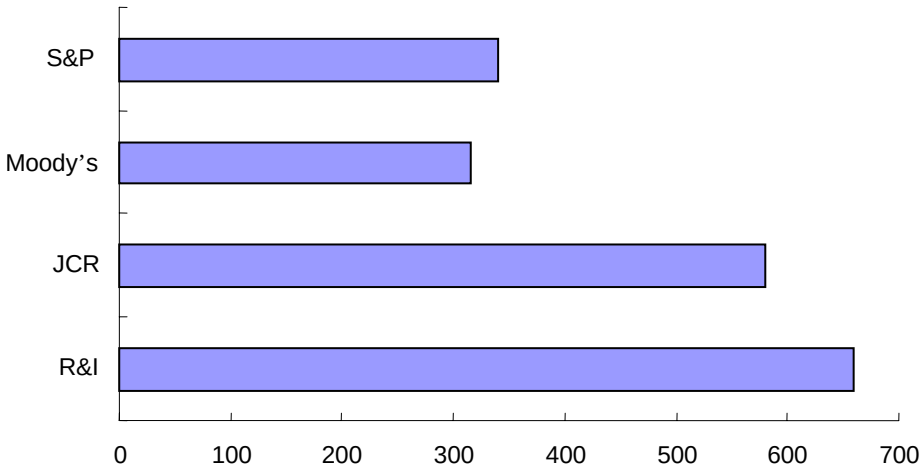


Note: Total net flow of corporate bonds before FY98 has been estimated by the BOJ. Privately issued bonds are excluded.

Sources: BOJ "Flow of Funds"; IN database; Japan Securities Dealers Association.

Graph 3

Coverage by rating agencies

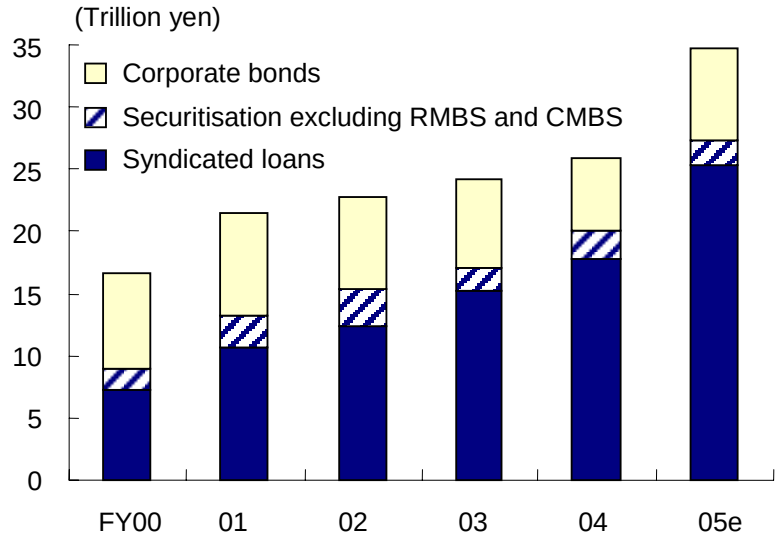


Note: The numbers of Japanese issuers rated at end-July 2003 are reported.

Source: Tsutomu Okato, "Credit Ratings in Japan", Chuokeizaisha 2004.

Graph 4

Amount issued and originated in credit markets



Note: 2005e figures are calculated on a year-on-year basis, using available data. RMBS stands for residential mortgage backed securities; CMBS stands for commercial mortgage backed securities.

Sources: BOJ, "The Survey on the Securitisation Market"; Deutsche Securities Limited Securitisation Research; Japan Securities Dealers Association; Thomson Financial.

2. The syndicated loan market

As shown in Graph 4, the corporate bond market has levelled off recently. Securitisation, excluding mortgage-backed securities, provided some funding for firms following the financial crisis, but has been capped in recent years. In contrast, loan syndication is now taking off. This section considers the loan market.

The syndicated loans market started to develop after the financial crisis, because banks needed to liquidate non-performing loans. The primary loan syndication market is driving the recent growth of the loan market, as shown in Graph 5. The BOJ supports the market's growth in various ways. First, it publishes "Statistics on Syndicated Loans", which are useful for analysing the market since the report provides detailed breakdowns of data. (Note that the BOJ acts as a clearing house for information.) Second, the BOJ accepts syndicated loans as collateral for open market operations. Finally, the BOJ supports the activities of industry associations. For example, as a member of a working group, it helped the Japan Syndication and Loan-trading Association (JLSA) devise standard contracts.

As already mentioned, Japan's domestic demand for credit risk is strong, while investment opportunities in Japan's credit markets are very limited. Expansion of cross-border syndicated loans could broaden investment opportunities for Japanese investors, particularly in Asia, where regional companies might benefit from multiple sources of funding.

3. The securitisation market

The securitisation of credit receivables and equipment leases has also served as a substitute for bank loans since the financial crisis, just as the corporate bond and secondary syndicated loan markets have done. Graph 6 shows that mortgage-backed securities have driven recent market growth. This growth has been due in part to deregulation, specifically the revision in 2003 of the Government Housing Loan Corporation Law to accelerate the liquidation of housing loans.

The BOJ commenced a program of outright purchases of asset-backed securities (ABSs) and Asset-back commercial papers (ABCPs) in 2003 to support the transmission mechanism of monetary easing. In particular, the BOJ has tried to smooth the delivery of money to small and medium-sized enterprises, which have the greatest need for credit. To this end, over half of the BOJ's underlying portfolio is restricted to instruments issued by small and medium-sized enterprises. Although the total amount of outright ABS purchases is steadily increasing (Graph 7), the purchases remain small, reaching only around three million yen recently. However, this increase can be interpreted as a good sign for market development since it reflects stronger-than-expected demand from private investors. Indeed, market participants seem to have more confidence in securitisation since the BOJ's announcement of its own purchases.

The BOJ has also contributed to the sound development of the market by holding a workshop on securitisation to discuss market practices with a wide range of professionals. One outcome of the workshop is the "Survey on the Securitisation Market", which increases market transparency as it can be accessed freely on the BOJ's website. (The BOJ started the survey in 2004, and the private sector is planning to take it over.)

4. The Samurai bond market

Graph 8 shows that the issuance of Samurai bonds has increased in recent years. Graph 9 shows that 16% of Samurai bonds in 2005 were issued by Asian institutions. Japanese investors are eager to purchase Samurai bonds, many of which provide them with wider spreads than bonds issued by Japanese firms. This market is a solid means for them to invest in Asian companies.

5. The credit derivatives market

As can be seen in Graph 10, the size of Japan's credit derivatives market remains small compared with the global derivatives market. However, the Japanese market has expanded rapidly. It is not clear, though, whether credit derivatives help stabilise financial markets, and this will be an important topic to consider in the coming years.

6. Conclusion

This paper can be summarised by the following three points.

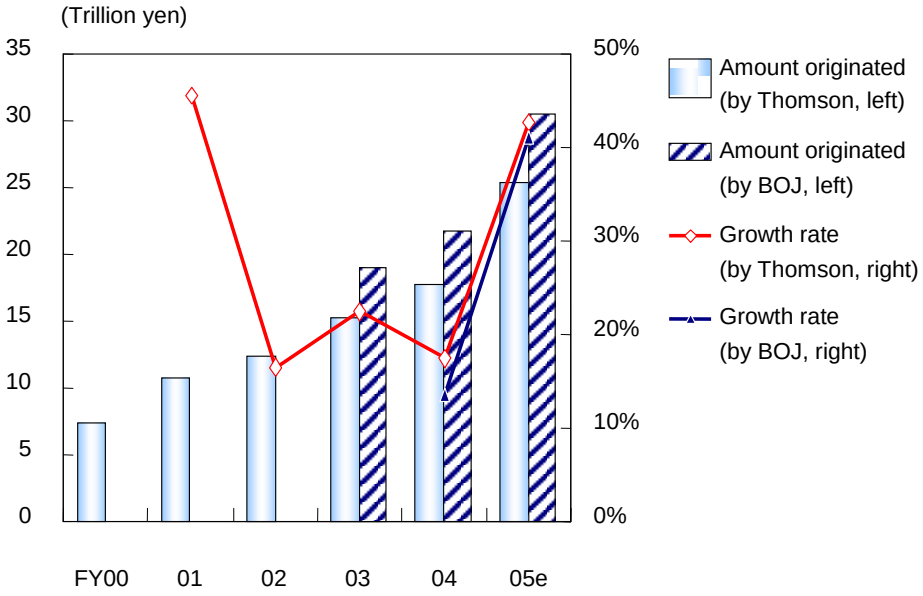
First, although bank loans have dominated the Japanese credit market, the corporate bond market, along with the secondary syndicated loan market and securitisation of credit receivables and equipment leases, has played an important role since the financial crisis. The infrastructure of the credit market is reasonably well developed, and is expected to support the Japanese economy during the next credit down-cycle.

Second, investment opportunities in Japan's credit market are limited. The Samurai bond market is enabling Japanese investors to invest in Asian companies, and cross-border syndicated loans may play a greater role in future.

Finally, deregulation, such as the abolition of bond issue standards, was a prerequisite for the development of the credit market. Measures by the BOJ, such as outright purchases of ABSs and ABCPs and publishing statistics and surveys on credit markets, have helped to enlarge the investor base, as well as develop a new financing channel for companies, particularly small and medium-sized enterprises.

Graph 5

Origination of syndicated loans

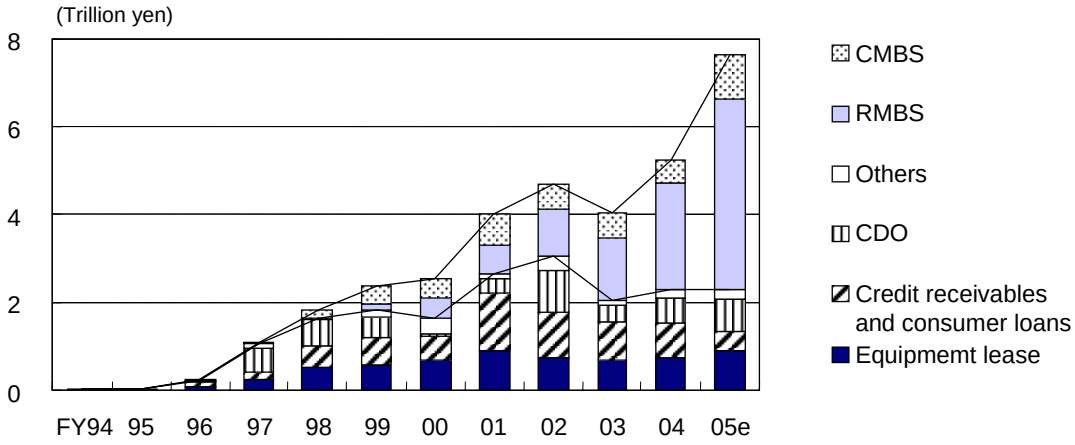


Note: 2005e figures are calculated on a year-on-year basis, using available data for April-September.

Sources: BOJ; Thomson Financial.

Graph 6

Amount issued in securitisation markets

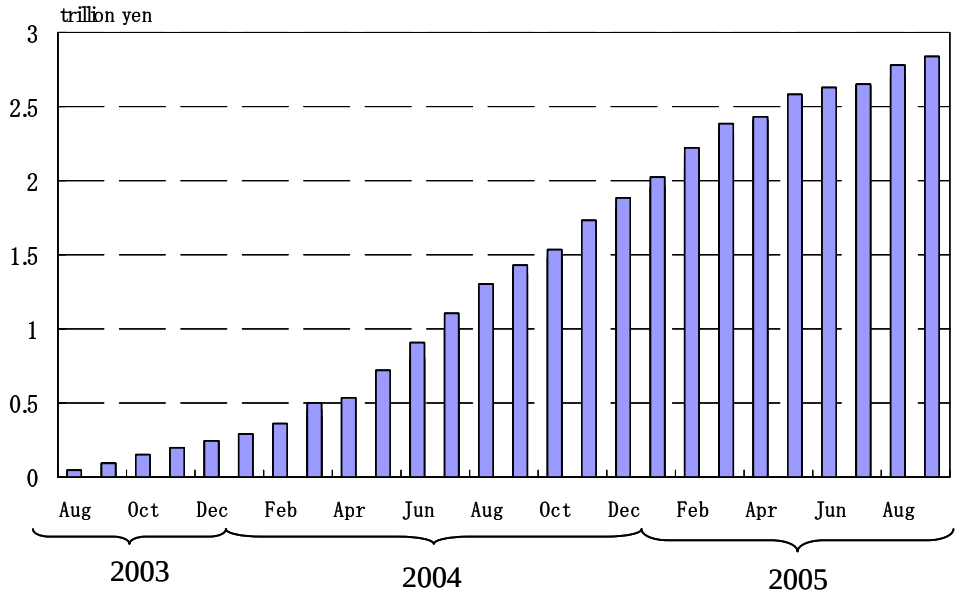


Note: 2005e figures are calculated on year-on-year basis, using available data for. April-September. CDO stands for collateralised debt obligations.

Sources: BOJ "The Survey on the Securitisation Market" (from FY04); Deutsche Securities Limited Securitisation Research (to FY03).

Graph 7

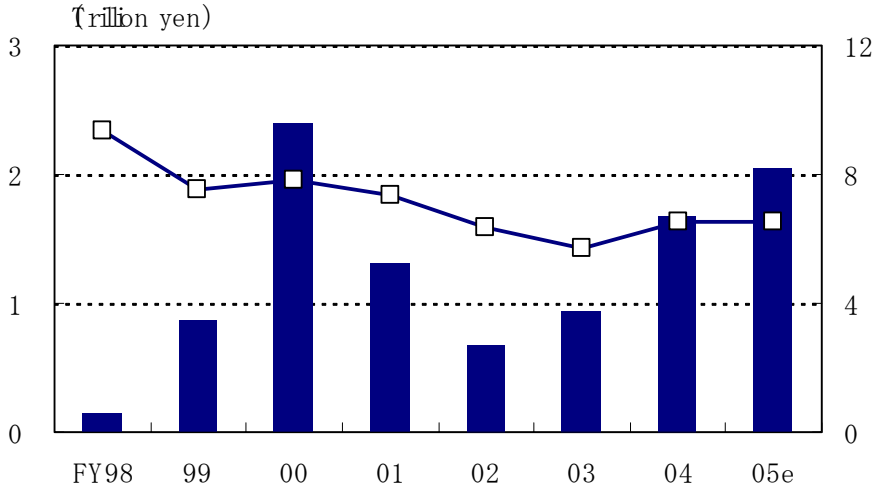
Total amount of ABS and ABCP outright purchases



Source: BOJ.

Graph 8

Amount of Samurai bonds issued and outstanding

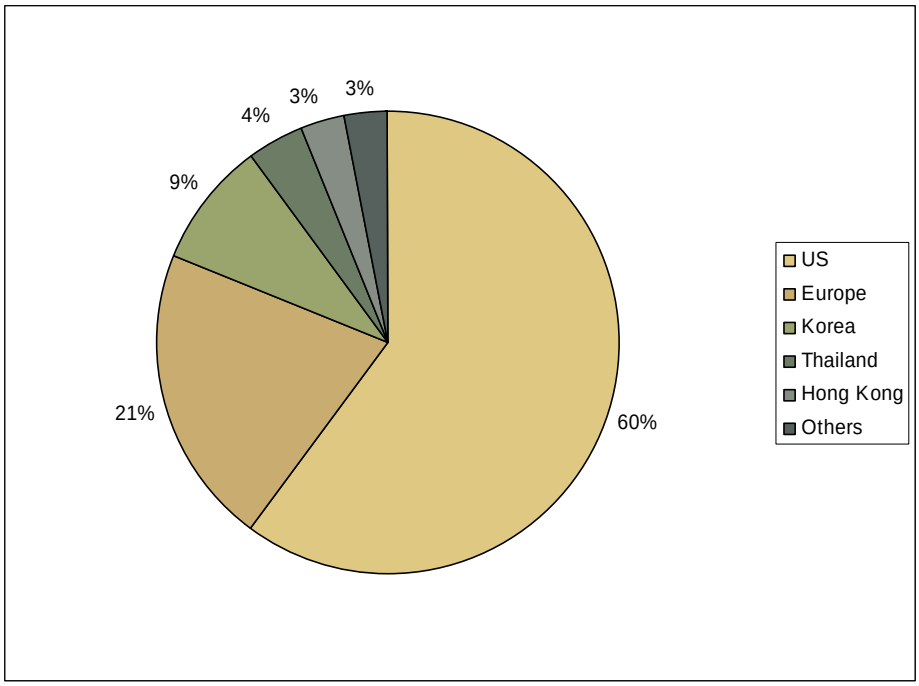


Note: The bar and the line correspond to issuance and outstanding amounts respectively. 2005e figures are calculated on a year-on-year basis, using data available for April-August.

Source: Japan Securities Dealers Association.

Graph 9

Nationalities of Samurai bonds

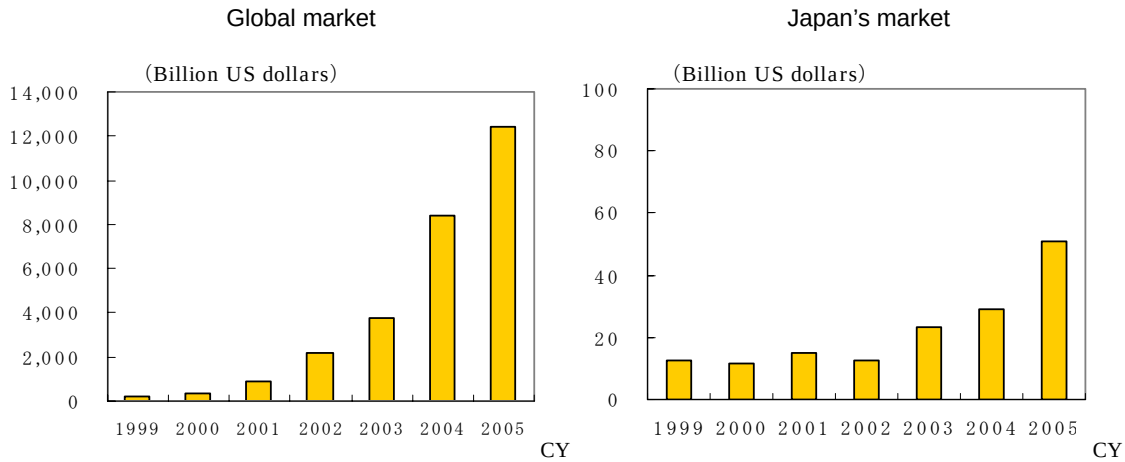


Note: Between January and September 2005.

Source: Japan Securities Dealers Association.

Graph 10

Outstanding amount of credit default swaps



Note: CY: calendar year. Some of the figures are estimated by the BOJ. 2005 figures are as of the end of the first half. There is a break in the Japanese data due to statistical processing at the end of June 2005.

Sources: British Bankers' Association; ISDA; BIS.

Developing the corporate bond market: the Korean experience

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Bank of Korea

I. Introduction

Because the Korean government had not run a deficit for many years, the local bond market for government and government-guaranteed bonds was not well developed when the currency crisis hit in 1997. However, a market for corporate bonds had sprung up in the early 1970s, with most issues carrying guarantees from banks, securities houses or guarantee funds. Because of the small scale of government bond issuance, the yield on the three-year corporate bond was used as the benchmark bond yield.

Since the currency crisis, however, there has been remarkable growth in the size of the local bond market, together with structural changes. Its growth reflects a number of factors. First, since the government urgently needed to raise a huge volume of public funds for financial restructuring as well as fiscal pump-priming to boost the economy, it had to immediately set about developing government bond and government-guaranteed bond markets. Second, the Bank of Korea had to issue Monetary Stabilisation Bonds (MSBs) on a massive scale to absorb the expansionary effects of the rapid increase in its foreign reserves. Third, companies had to raise more funds from the bond market because financial institutions in the throes of their own restructuring were very reluctant to extend loans to the corporate sector. Finally, very large quantities of asset-backed securities (ABSs) needed to be issued during the twin processes of financial and corporate sector restructuring.

Table 1

Outstanding volume of bonds in Korea

(Year-end, in trillions of KRW)

	1997	1998	1999	2000	2001	2002	2003	2004
Government	28.5	41.6	61.2	71.2	82.4	98.3	135.8	177.6
(KTB[1])	6.3	18.8	34.2	42.6	50.9	55.6	81.5	123.1
MSBs[2]	23.5	45.7	51.5	66.4	79.1	84.3	105.5	142.8
Financial inst.	67.3	75.0	59.3	73.0	81.0	122.8	129.2	174.6
Corporate[3]	**90.1**	**122.7**	**119.6**	**133.6**	**154.4**	**180.0**	**187.4**	**153.3**
Agency	9.7	56.1	81.1	86.0	113.2	107.2	87.0	73.5
Local gov't	3.1	3.0	3.0	3.1	3.1	3.1	2.9	3.1
Total bonds (A)	222.3	344.1	375.6	433.2	513.1	595.6	647.7	724.9
Nominal GDP (B)	491.1	484.1	529.5	578.7	622.1	684.3	724.7	778.5
A/B (%)	46.1	73.5	70.7	76.5	84.0	83.4	85.3	93.1

Notes: [1] Korea Treasury Bonds. [2] Including maturities of less than one year. [3] Public issuances and redemptions of general companies, excluding financial institutions and public enterprises, ABS, workout and debt rescheduling corporations.

Sources: BoK, Financial Supervisory Service.

[1] Associate Director of the Fixed Income Market Team and Director General of the Financial Markets Department of the Bank of Korea (BoK), respectively. The views expressed here are those of the authors only, and do not necessarily reflect those of the BoK.

Consequently, the total outstanding volume of bonds issued tripled to 725 trillion won at the end of 2004 from 222 trillion won at the end of 1997. During the same period, the volume of corporate bonds (including ABS) increased from 90 trillion won to 153 trillion won, despite a temporary decline following the collapse of Daewoo Group in July 1999.

The structure of the local bond market - both primary and secondary - has also changed substantially since the crisis. The infrastructure of the government bond market, in particular, has developed significantly, reflecting government efforts on that front, including the active issuance of treasury bonds (KTBs) from September 1998. ABS (also introduced in late 1998) proved to be very successful, and issuance increased dramatically from 1999 onwards during the process of financial and corporate restructuring, until the emergence of credit card company insolvencies in March 2003. The composition of corporate bond issuance has also changed. Specifically, because of financial institutions' reluctance to provide credit guarantees for corporate bond issuance in the wake of the currency crisis, the majority of corporate bonds have been issued in non-guaranteed form since 1998.

Against this backdrop, this paper explains developments in local bond markets since the currency crisis, with a primary focus on the corporate bond market, and attempts to draw policy lessons based on the Korean experience. Recent developments in the corporate bond market and policy responses are outlined in Section II. The main features of the corporate bond market since the currency crisis are spelled out in Section III. Finally, some policy lessons are drawn in Section IV.

II. Recent developments in the corporate bond market and policy responses

1. ITCs' deposit bubble and corporate bond issuance boom

Faced with the currency crisis, the Korean government, acting in consultation with the IMF, decided its first step would be to restructure Korea's distressed commercial banks and merchant banking corporations. For non-bank financial institutions, such as securities houses, insurance and leasing companies and investment trust companies (ITCs), those facing insolvency would be restructured while the rest would be encouraged to raise additional capital from calls on major shareholders, and seek a management turnaround through their own efforts.

Right after the crisis, the corporate sector badly needed to raise more funds from the corporate bond market, since commercial banks adopted a very cautious approach to corporate lending as they struggled to meet the Basel capital adequacy ratio. At the same time, the majority of corporate bonds had to be issued in the form of non-guaranteed paper because of financial institutions' reluctance to provide credit guarantees for corporate bonds. In response, the government raised the ceiling on an individual firm's corporate bond issuance from double to four times its equity capital, and eliminated all remaining restrictions on investment in domestic bonds by foreigners in December 1997.

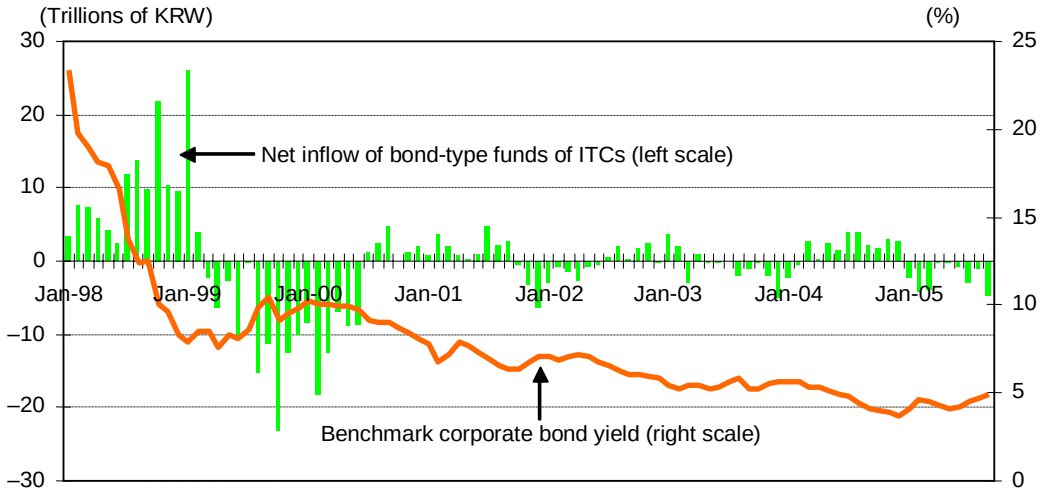
While the initial impact of these measures was not significant, they did pave the way for growth in the ensuing years. The corporate sector raised funds on a vast scale by issuing non-guaranteed bonds, as interest rates declined sharply after their peak in mid-February 1998. With this abrupt downturn in interest rates, there was a huge surge of fund inflows to ITCs, particularly into their bond-type beneficiary certificates, which were expected to provide more attractive yields. In fact, funds placed in such certificates increased sharply, from 65 trillion won at the end of 1997 to 181 trillion won at end-June 1999, with a peak of 203 trillion won at end-February 1999. Thanks to this surge in funds under management in their bond-type beneficiary certificates, the ITCs had more money to purchase corporate bonds. The ample liquidity of ITCs, in turn, made it possible for many firms to issue large quantities of non-guaranteed bonds, resulting in a swift shift of the structure of the corporate bond market to one dominated by non-guaranteed bonds.

Nevertheless, it is far from clear why investors - in the face of ongoing financial sector restructuring - invested such a huge amount of money in ITCs, especially since such deposits are not protected by deposit insurance. Although there are many different explanations for this, it appears to reflect, to a large extent, a combination of sharply declining interest rates from the second quarter of 1998 and the maintenance of the principle of historical cost valuation in accounting for assets in the bond-type beneficiary certificates. Under this accounting principle, such certificates were expected to provide more attractive yields due mainly to possible capital gains associated with declining interest rates. It

also seems attributable to a widely held view among market participants at that time that restructuring of the ITCs would be implemented as the final stage of financial sector reform. In addition, the fact that some chaebol appeared to rely on ITCs affiliated with their groups to buy their bonds regardless of risk may also have acted as a contributing factor.

Graph 1

Trends of interest rate and net inflow of bond-type funds of ITCs



Sources: Korea Securities Dealers Association; Financial Supervisory Service.

Consequently, thanks to the huge net issuance of corporate bonds, the proportion of funds raised from the corporate bond market in relation to the total borrowings of private enterprises increased to 22% in 1998 and 21% in 1999, from 16.7% in 1997.

Table 2

Trends of financing by private enterprises

(Year-end outstanding, in trillions of KRW)

	1997	**1998**	**1999**	**2000**	**2001**
Total loans	311.4	290.8	289.4	307.2	335.6
	(42.9)	(41.1)	(41.1)	(41.7)	(40.6)
Of which: loans from banks	*150.2*	*147.6*	*162.4*	*177.1*	*191.9*
	(20.7)	*(20.8)*	*(23.0)*	*(24.1)*	*(23.2)*
Corporate bonds	**121.3**	**157.7**	**148.2**	**123.7**	**179.9**
	(16.7)	**(22.3)**	**(21.0)**	**(16.8)**	**(21.7)**
Commercial papers	68.8	55.6	40.3	33.9	44.1
	(9.5)	(7.9)	(5.7)	(4.6)	(5.3)
Others	224.5	204.0	226.7	271.4	268.0
	(30.9)	(28.8)	(32.2)	(36.9)	(32.4)
Total	726.0	708.1	704.6	736.2	827.6

( ) shows percentage of the total.

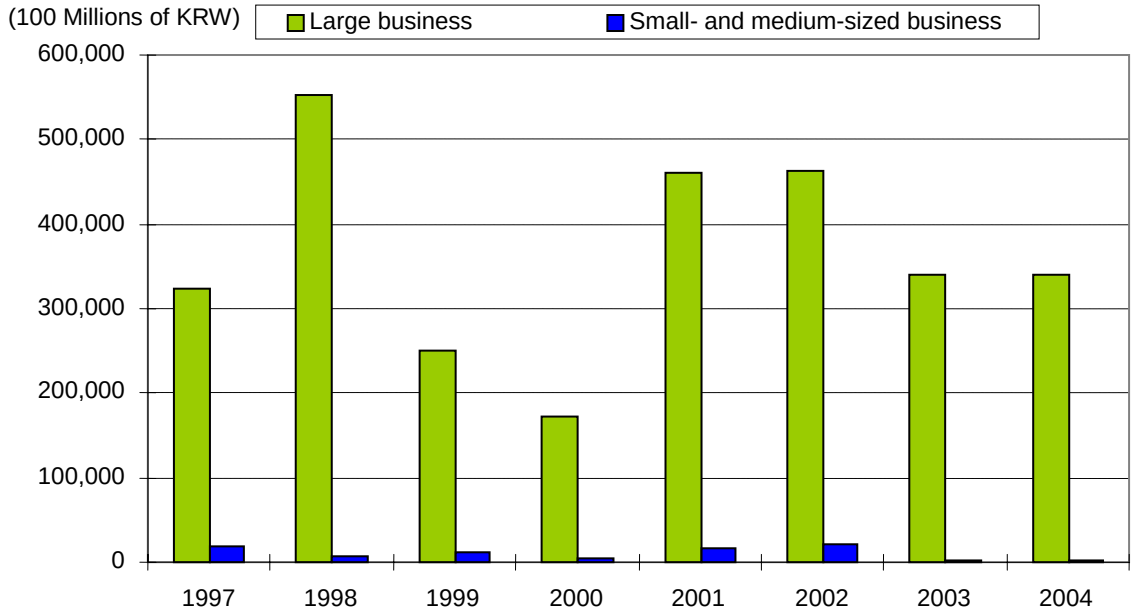
Source: BoK, *Flow of Funds Statistics*.

Although the development of a corporate bond market helped to ease the financial pressure on the corporate sector, this huge surge in bond-type funds generated some adverse effects. More specifically, some chaebol, the Daewoo Group in particular, aggressively expanded the scope and scale of their businesses by using the vast funds raised from the corporate bond market, even after the crisis.

In response to this potentially adverse effect, the government imposed a temporary ceiling, from October 1998 to May 2000, on the purchases by banks, ITCs and insurance companies of corporate bonds issued by member companies of several conglomerates. Following these measures, the bond issuance by big corporations rapidly declined. As can be seen from Graph 2 below, the straight bond issuance by big companies dropped from 55 trillion won in 1998 to 17 trillion won in 2000.

Graph 2

Public offerings of corporate bonds by company size



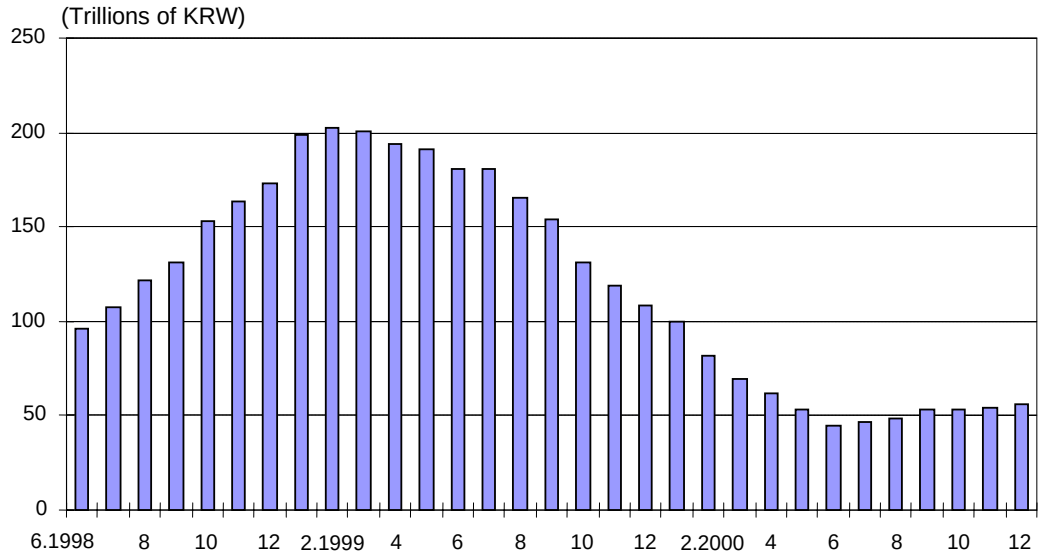
Source: Financial Supervisory Service, *Monthly Financial Statistics Bulletin*.

2. Daewoo's collapse, leading to a bust in the corporate bond market

In mid-July 1999, the favourable conditions in the corporate bond market, which had persisted since mid-1998, suffered a complete reversal upon the collapse of Daewoo Group, the third largest chaebol, and the resulting liquidity problems for ITCs. ITCs experienced large losses associated with their vast holdings of dishonoured bonds issued by Daewoo, which raised investors' concerns over the soundness of their assets held in ITCs' bond-type funds. This, in turn, triggered a huge withdrawal of funds from ITCs, leaving them with severe liquidity problems. The funds represented by the ITCs' bond-type beneficiary certificates decreased sharply, from 181 trillion won at end-June 1999 to 45 trillion won at end-June 2000.

Graph 3

Outstanding bond-type beneficiary certificates of ITCs



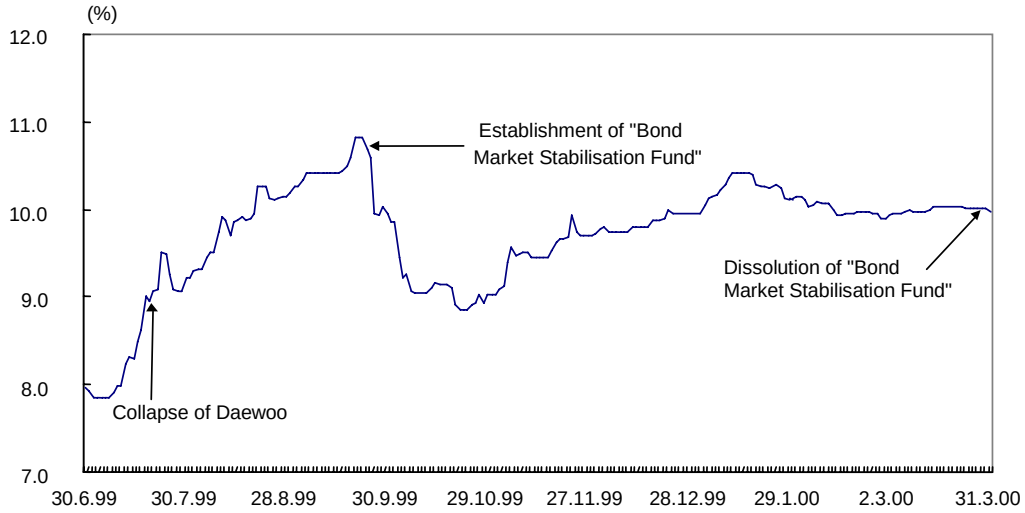
Source: Financial Supervisory Service, *Monthly Financial Statistics Bulletin*.

Indeed, Daewoo Group's collapse had ramifications for the entire bond market. Specifically, there was a vicious circle: massive withdrawals of ITCs' funds led to heavy selling of bonds, which caused rising bond yields and further loss of funds, which triggered another massive withdrawal.

Therefore, the authorities needed to take a number of measures to break the vicious circle. First, in an attempt to stabilise bond yields in the secondary market, the authorities introduced a "Bond Market Stabilisation Fund" in September 1999 that was financed mainly by contributions from banks and insurance companies. The amount of funds to be raised had been set at 2 trillion won initially, but this figure had to be raised to 3 trillion won by mid-November 1999. The Bond Market Stabilisation Fund was very effective in achieving its goals, bringing down the benchmark three-year corporate bond yield from 11% to 9.5%, and yielding profits to its subscribers when it was dissolved in March 2000.

Graph 4

Benchmark corporate bond yields from July 1999 to March 2000



Source: Korea Securities Dealers Association.

Second, a two-pronged approach was adopted to prevent a massive outflow of funds from ITCs. Large-scale redemptions of bond-type certificate funds were discouraged by the persuasion of government and financial supervisory agency to stabilise financial markets, while redeemed funds were attracted back into ITCs by new instruments that were substitutes for bond-type beneficiary certificates.

Finally, to restore investors' confidence in ITCs, several measures for strengthening balance sheets and increasing the transparency of asset management were introduced, including cleaning-up of non-performing assets held by ITCs and the mandatory adoption of the mark-to-market accounting principle. To clean up non-performing assets held by ITCs, 18.5 trillion won worth of non-guaranteed Daewoo paper held by ITCs were sold in January 2000 to Korea Asset Management Corporation (KAMCO) at 34.7% of their face value. In addition, from February 2000, non-performing assets held by ITCs were securitised as collateralised bond obligations (CBOs). To improve ITCs' asset management practices and heighten their transparency, the authorities mandated mark-to-market accounting for the assets held by ITCs' bond-type certificate funds, utilising a step-by-step approach that was completed in July 2000. In addition, to provide more accurate valuation of bonds held by ITCs, the establishment of three private bond-pricing agents was permitted in June 2000.

3. Crisis at maturity

As mentioned earlier, there had been massive corporate bond issuance in the second half of 1998 and early 1999, primarily in the form of three-year bonds, as well as some at shorter maturities. Corporate bonds issued in the second half of 1997, along with a significant portion of bonds issued in the second half of 1998, began to mature from the beginning of the second half of 2000, resulting in the need to roll over a large volume of corporate bonds.

At the same time, financial conditions in the corporate bond market had deteriorated sharply because of the collapse of Daewoo Group and the accompanying ITC liquidity problems. In addition, the liquidity conditions of some chaebol-linked companies, including certain Hyundai subsidiaries, worsened from mid-2000. Firms with lower credit ratings, in particular, began to face extreme difficulties in rolling over their maturing bonds. The situation was even more dire for smaller firms. To solve these difficulties, primary CBOs and a 10 trillion won "Bond Fund"[2], with subscriptions from 15 banks and other financial institutions, were introduced in the second half of 2000.

[2] Subscribers to a "Bond Fund" deposited money with ITCs, which then established dedicated funds. According to the investment guidelines set by subscribers, ITCs' purchases of primary CBOs could represent up to 50% of the subscribed funds.

Table 3

Issuance and redemption of corporate bonds by credit rating[1]

(Annual flows, in billions of KRW)

	1999	2000	2001	2002
(A or higher grades)				
Issuance	8,285	10,222	20,807	10,897
Redemption	7,982	12,238	15,443	10,401
Net increase	303	–2,016	5,363	496
(BBB)				
Issuance	9,784	4,583	8,982	7,127
Redemption	6,129	12,133	9,606	7,115
Net increase	3,655	–7,550	–624	12
(BB or lower)				
Issuance	6,810	1,277	2,602	936
Redemption	10,483	8,232	6,409	2,963
Net increase	–3,672	–6,955	–3,807	–2,028
(Total)[2]				
Issuance	26,312	17,619	32,390	18,960
Redemption	30,407	33,427	31,458	20,479
Net increase	–4,095	–15,808	932	–1,519

Note: [1] Public issuance and redemption only (excluding ABS, workout and debt rescheduling corporations). [2] Total amounts (including secured bonds).

Source: Financial Supervisory Service.

Table 4

Issuance of primary CBOs

(Annual, in billions of KRW)

	Amounts		Underlying assets by grade				Credit guarantee ratio[1] (%)
		Senior tranche	A	BBB+ or BBB	BBB–	BB and lower	
2000	73,073	70,108	2,850	20,368	28,341	21,490	34.1
			(3.9)[2]	(27.9)[2]	(38.8)[2]	(29.4)[2]	
2001	55,734	53,710	2,290	18,476	13,605	21,351	53.2
			(4.1)[2]	(33.2)[2]	(24.4)[2]	(38.3)[2]	
Total	128,807	123,818	5,140	38,844	41,946	42,841	42.4

Notes: [1] The ratio of the amount of the credit guarantee to that of the senior tranche. [2] ( ) shows shares of underlying assets by grade in percent.

Source: Financial Supervisory Service.

Despite these measures, financing conditions in the corporate bond market, especially those for relatively larger firms with lower credit ratings (including four subsidiaries of Hyundai Group) continued to deteriorate. "The Korea Development Bank (KDB) Prompt Underwriting Scheme"[3] was introduced at the end of 2000, started operating in January 2001 and lasted for one year. The total amount of corporate bonds issued through this scheme[4] was 2.6 trillion won.

Table 5

Corporate bonds issued via the KDB scheme in 2001

(in billions of KRW)

2001	1Q	2Q	3Q	4Q
2,626	1,612	308	438	268

Source: Financial Supervisory Service.

Thanks to the implementation of these measures, together with a sharp decline in interest rates from the beginning of 2001, financing conditions in the corporate bond market improved substantially. To a certain extent, this also reflected market participants' optimistic view that the Korean economy would move into a recovery phase in the second half of 2001 and that cash flow conditions in the corporate sector generally would improve accordingly. During 2001, firms with credit ratings of A or above made a net issuance of 5.3 trillion won, while firms of sub-investment grade made a net redemption of 3.8 trillion won.

4. Another mild bust after the accounting scandal and credit card company insolvencies

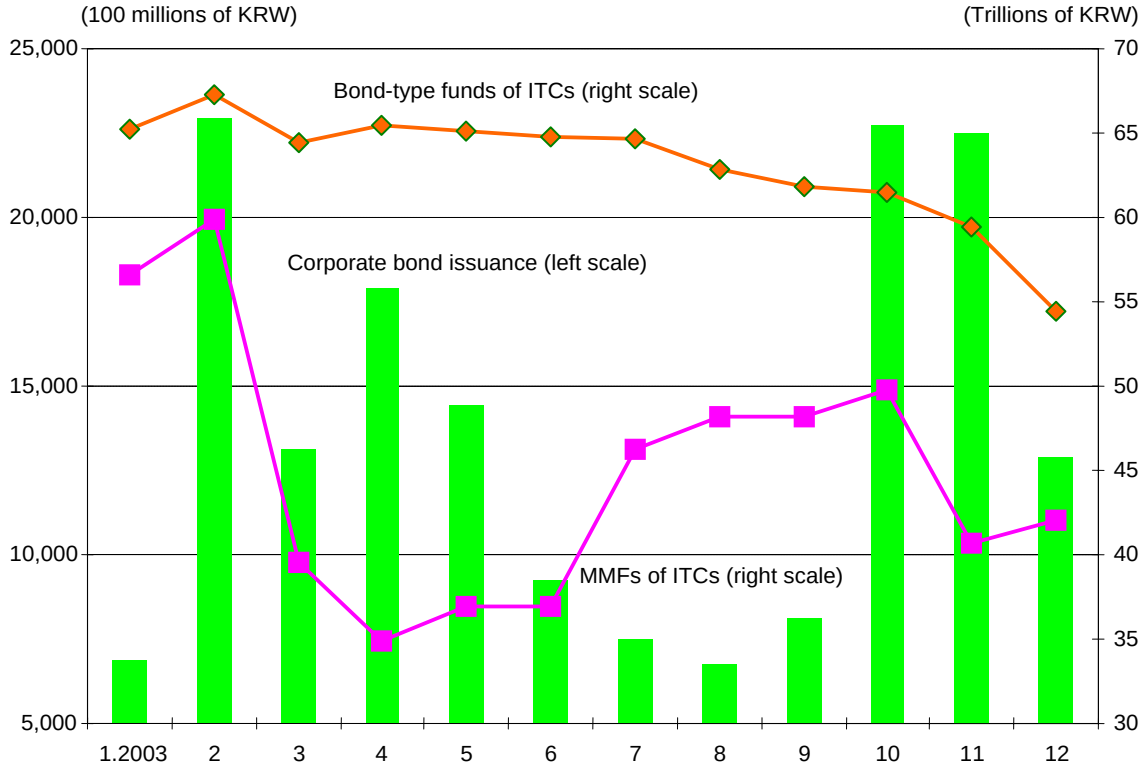
Following revelations of an accounting scandal involving SK Group, another large chaebol, and the emergence of credit card company insolvencies, the issuance of corporate bonds declined again in March 2003. Together, the scandal and the insolvencies led to the massive redemption of ITCs' money market funds (MMFs), and fund-raising conditions in the corporate bond market worsened again. In contrast to previous panics that had seen heavy runs, however, the bond-type funds of ITCs suffered only mild outflows. Nevertheless, corporate bond issuance by general non-financial companies decreased sharply, reflecting the greatly heightened risk sensitivity of market participants. Many credit card companies, in particular, faced extreme difficulties in rolling over their maturing debt.

[3] The scheme was operated in the following way. If firms under consideration were judged to be viable by a committee consisting of the KDB, their creditor banks and the Korea Credit Guarantee Fund (KCGF), they would be allowed to participate if they repaid 20% of their maturing bonds and presented credible rehabilitation plans. The KDB would then act as underwriter for the rollover of the remaining 80% of maturing bonds at the average prevailing secondary market yield on similarly rated bonds plus 40 basis points. As the underwriter of 80% of the maturing bonds, the KDB would repackage and sell 70% of them in the form of primary CBOs or CLOs (collateralised loan obligations), have the main creditor banks absorb 20% of them, and take the remaining 10% onto its own books.

[4] The corporate bonds underwritten by the KDB were sold through private placement rather than public offering.

Graph 5

MMFs and bond-type funds of ITCs, and corporate bond issuance



Source: Financial Supervisory Service, *Monthly Financial Statistics Bulletin*.

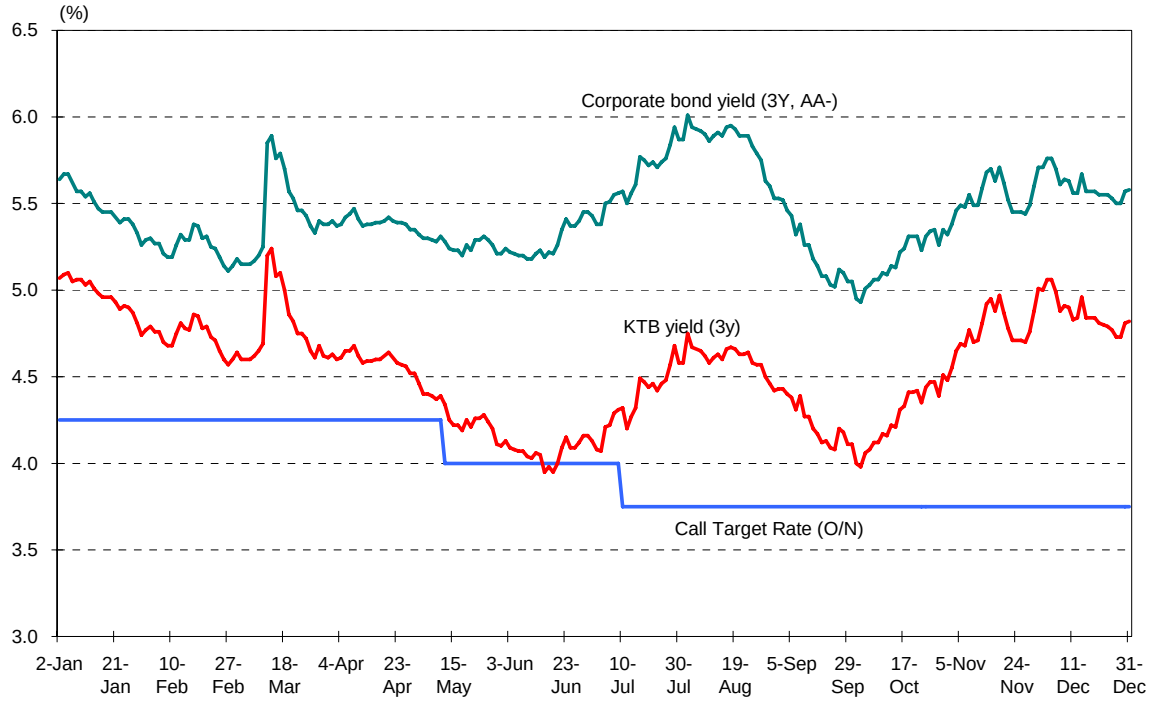
Long-term market interest rates also spiked in March 2003, due to the financial market turmoil triggered by SK Global's accounting scandal and worries over potential credit card company insolvencies. In addition, a rapid slowdown of economic growth raised investors' awareness of the increasing credit risk in the corporate sector generally, and market participants' risk aversion deepened, resulting in a widespread "flight-to-quality" in the local bond market. As a result, the yield spread between the benchmark government bond and corporate bonds (BBB-rated) widened rapidly after March 2003.

In an attempt to soothe market anxieties, the BoK announced measures to stabilise financial markets and injected liquidity through open market operations. The BoK quickly pumped in short-term liquidity amounting to 2 trillion won through a repurchase agreement purchase on 13 March 2003 and supplied an additional 2 trillion won of liquidity through the outright purchase of government bonds and redemption of MSBs prior to their maturity on 17 March 2003. That same day, the government also announced a comprehensive package of measures[5] designed to address the liquidity problems of both card issuers and ITCs.

[5] These included a capital increase or subordinated bonds issuance by credit card companies, the establishment of credit line with banks, the purchase of non-performing assets/loans of credit card companies by KAMCO.

Graph 6

Benchmark corporate bonds (3-yr) and KTB (3-yr) yields in 2003

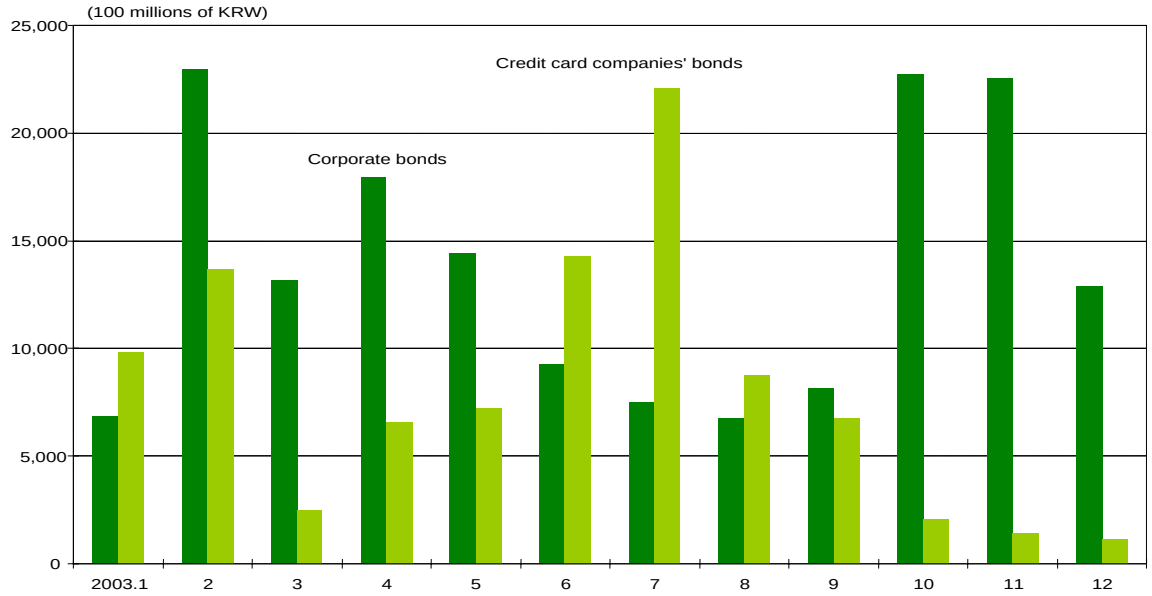


Sources: Korea Securities Dealers Association; BoK.

While financing conditions in the corporate bond market generally did seem to improve as a result of these efforts, it was still virtually impossible for many credit card companies to issue corporate bonds. This reflected a number of factors: 1) that credit card industry restructuring was still underway; 2) that ailing credit card companies were still facing a severe liquidity crunch; and 3) that delinquency rates on credit card billings were continuing to rise, due mainly to Korea's protracted economic downturn.

Graph 7

Issuance of corporate bonds and credit card companies' bonds in 2003

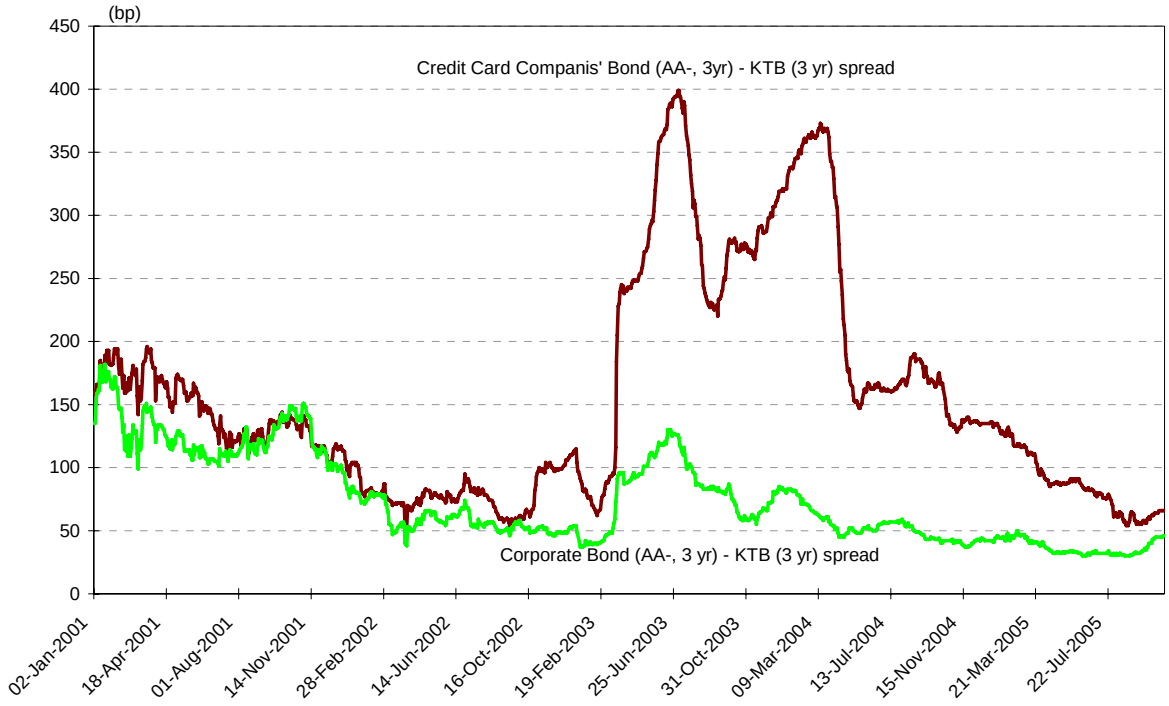


Source: Financial Supervisory Service, *Monthly Financial Statistics Bulletin*.

Graph 8 below shows the deteriorating financing conditions at credit card companies during the period. Note that the yield spread between the typical credit card company's bonds and KTBs increased substantially, becoming much wider than the spread between benchmark corporate bonds and KTBs after mid-March 2003.

Graph 8

Comparison of corporate and credit card company bond spreads



Source: Korea Bond Pricing Corporation.

The ABS market was also adversely affected by the woes of credit card issuers. ABS proved very popular upon their launch in late 1998, and issuance increased dramatically from 1999 during the corporate and financial restructuring process. Before the credit card companies' liquidity worries emerged in mid-March 2003, the ABS market was generally very calm, operating without any serious problems. However, after mid-March 2003, the spate of credit company insolvencies led to a very sharp deterioration in ABS market conditions. After LG Credit Card moved more deeply into insolvency in October 2003, the ABS market worsened significantly, as most financial institutions were reluctant to buy ABS bonds. As a result, this market recorded a net redemption of 1.9 trillion won in 2003, a dramatic reversal from net issuance of 19.3 trillion won in 2001.

Table 6

Issuance and redemption of ABS

(Annual flows, in billions of KRW)

	1999	2000	2001	2002	2003	2004
Issuance	4,445	33,983	34,248	28,258	23,529	2,929
Redemption	–	1,768	14,976	21,590	25,464	2,980
Net issuance	4,445	32,215	19,272	6,668	–1,936	–51

Source: Financial Supervisory Service.

III. Features of the corporate bond market since the currency crisis

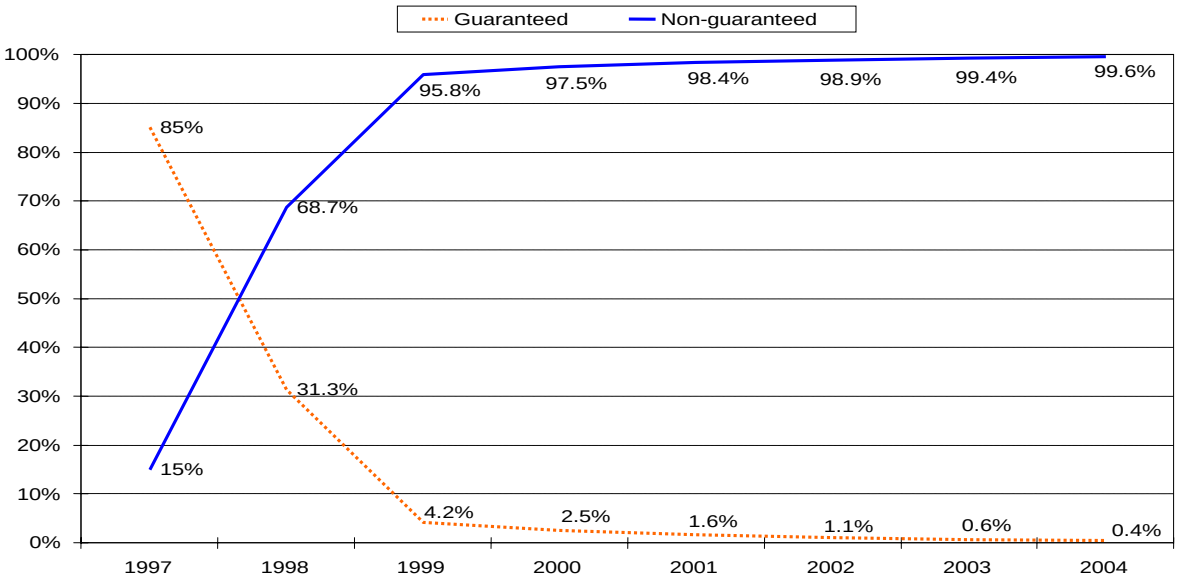
1. Primary market

Since the crisis of 1997, there have been substantial structural changes in Korea's corporate bond market. First, the market is now dominated by non-guaranteed bonds, rather than bonds carrying bank credit guarantees (Graph 9). In 1997, the share of guaranteed corporate bonds was 85%, while that of non-guaranteed bonds was only 15%. However, the share of non-guaranteed bonds increased to 96% in 1999, and then to 99.6% in 2004.

Second, the issuance of corporate straight bonds has declined somewhat in the past few years, as can be seen in Graph 2. This reflects, to a large extent, weak demand for funds by companies, as well as government efforts to improve the capital structure of the corporate sector. Specifically, after the currency crisis, the Financial Supervisory Agency urged companies to reduce their debt-to-equity ratios to below 200%. As a result, the debt-to-equity ratio of the manufacturing industry dropped to 104% in 2004, from 303% in 1998 (Graph 10).

Graph 9

Public offerings of guaranteed and non-guaranteed corporate bonds

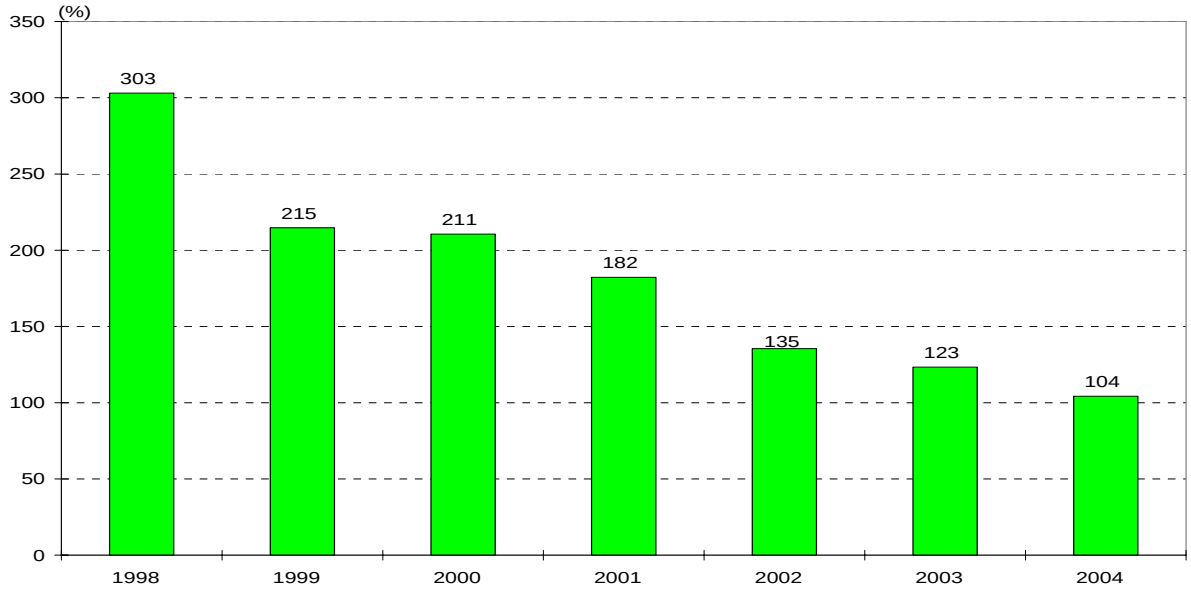


Source: Financial Supervisory Service, *Monthly Financial Statistics Bulletin*.

Graph 10

Debt-to-equity ratio from 1998 to 2004

(manufacturing industry)

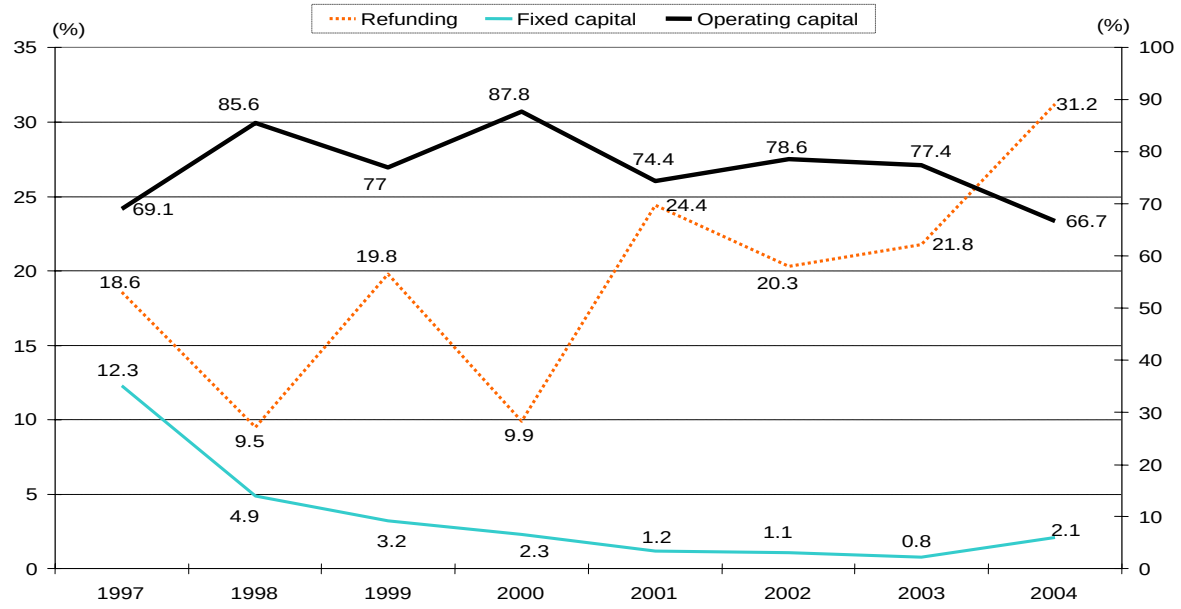


Source: BoK, *Financial Statement Analysis*.

Finally, it is worth mentioning that many companies have used funds raised from new issuance of corporate bonds to restructure their debt. In fact, many large firms with good credit ratings have switched their short-term debt to long-term debt by using funds raised from corporate bond issuance to repay their short-term paper[6]. The proportion of bond proceeds earmarked for refunding was 31.2% in 2004, up three-fold from 9.5% in 1998, while the proportion earmarked for fixed capital decreased from 12.3% in 1997 to 2.1% in 2004, reflecting recent weak demand for facilities investment.

Graph 11

Offerings of corporate bonds by use of proceeds



Source: Financial Supervisory Service, *Monthly Financial Statistics Bulletin*.

2. Secondary market

First, the liquidity of corporate bonds in the secondary market is very poor compared with that of government bonds. The trading volume of corporate bonds dropped following the collapse of Daewoo Group and the liquidity problems of the ITCs in July 1999, and has remained in the doldrums ever since. This is in stark contrast to the remarkable growth of the trading volume of government bonds. The annual turnover ratio of corporate bonds, defined as the ratio of annual trading to outstanding volume, decreased sharply, dropping from 3.7 in 1998 to 0.9 in 2004, while that of government bonds increased from 1.6 to 8.4 over the same period. This implies that trade in the secondary bond markets has been increasingly in sovereign bonds.

Second, although the trading volume of corporate bonds has been declining since 2000, the trading volume of BBB-rated corporate bonds has increased markedly, with average monthly trading volume increasing to 50 trillion won in 2004 from 41 trillion won in 2001 (Table 8). Some investors dedicated to the pursuit of higher yields in a period of low interest rates (including mutual savings banks, credit unions and certain individual investors) are gradually increasing their purchase of BBB-grade bonds, which promise high returns but show relatively low default ratios. However, the trading volume of corporate bonds with credit ratings of BB and below decreased to 1.7 trillion won in 2004 from 6.2 trillion won in 2001.

[6] The purpose here, conditional upon specific timing and market conditions, was to lock in favourable rates.

Table 7

Trends of transactions in the secondary markets

(billions of KRW and %)

	1997	**1998**	**1999**	**2000**
[Daily volume]				
Corp bonds (A)	444	1,272	1,456	929
Gov't bonds (B)	44	223	2,310	2,031
Total bonds	798	2,288	4,678	6,317
A/B (%)	1,009.1%	570.4%	63.0%	45.7%
[Turnover ratio]				
Corp bonds (A)	1.48	3.7	3.6	2.1
Govt bonds (B)	0.6	1.6	11.3	8.6
A/B (%)	246.7%	231.3%	31.8%	24.4%
	2001	**2002**	**2003**	**2004**
[Daily volume]				
Corp bonds (A)	883	803	652	547
Govt bonds (B)	3,221	2,648	3,984	5,978
Total bonds	9,249	7,832	9,919	11,313
A/B (%)	27.4%	30.3%	16.4%	9.2%
[Turnover ratio]				
Corp bonds (A)	1.6	1.4	1.0	0.9
Govt bonds (B)	11.7	7.4	7.3	8.4
A/B (%)	13.7%	18.9%	13.7%	10.7%

Source: Korea Bond Pricing Corporation.

Table 8

Monthly trading volume of corporate bonds by credit rating

(outstanding, in 100 millions of KRW)

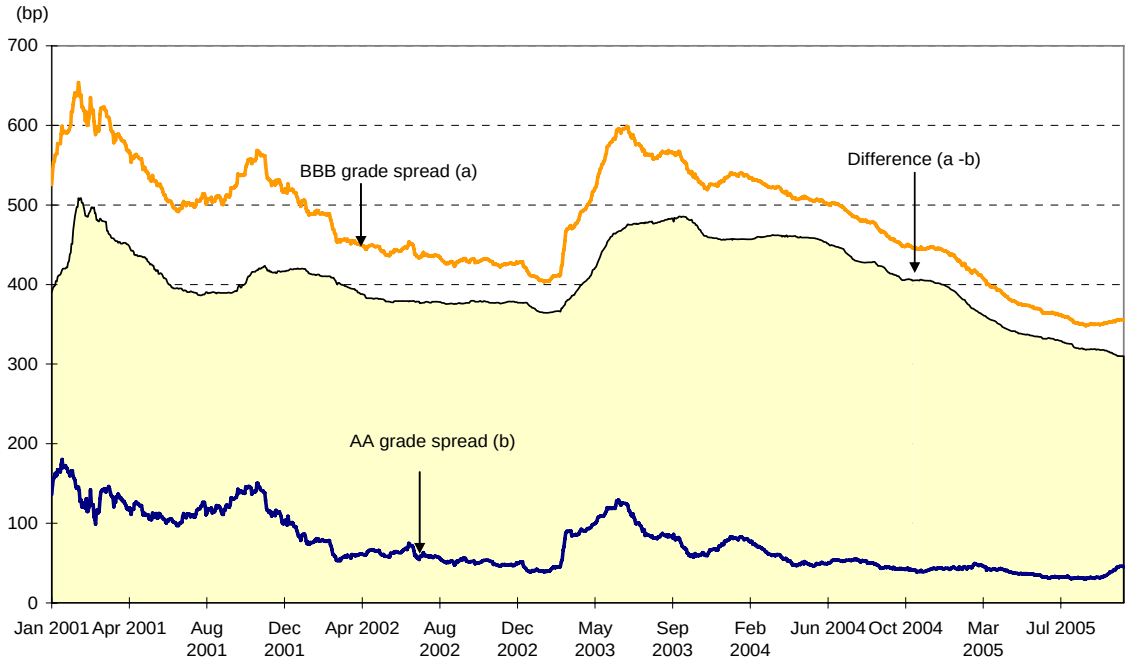
	2001	2002	2003	2004	Jan-Oct 2005	Total
AA and higher	556,910	731,465	690,285	749,679	520,830	3,249,169
A	445,448	492,173	389,243	264,533	331,785	1,923,182
BBB	**413,268**	**490,978**	**264,374**	**498,530**	**366,015**	**2,033,165**
BB and lower	62,235	55,489	42,177	16,821	5,110	181,833
	1,477,860	1,770,106	1,386,079	1,529,563	1,223,740	7,387,349
			%			
AA and higher	37.7	41.3	49.8	49.0	42.6	44.0
A	30.1	27.8	28.1	17.3	27.1	26.0
BBB	**28.0**	**27.7**	**19.1**	**32.6**	**29.9**	**27.5**
BB and lower	**4.2**	**3.1**	**3.0**	**1.1**	**0.4**	**2.5**
Total	100.0	100.0	100.0	100.0	100.0	100.0

Source: Korea Bond Pricing Corporation.

Reflecting the increasing appetite for BBB grade corporate bonds, there has been a rapid narrowing between AA grade and BBB grade spreads.

Graph 12

Spreads of corporate bonds yields



Notes: [1] BBB grade spread = corporate bond BBB grade yields - KTB benchmark yields. [2] AA grade spread = corporate bond AA grade yields - KTB benchmark yields. They are averages of three bond pricing agents. Source: BoK.

Finally, when the investor base for corporate bonds is considered, ITCs, which accounted for 62.4% of the total outstanding volume of corporate bonds in 1998, accounted for only 15.3% in 2004. On the other hand, the share of contractual savings institutions, such as insurance companies and pension funds, increased substantially, rising from 2.1% in 1998 to 17.8% in 2004. The share of small mutual savings banks, credit unions and individual investors also increased significantly, rising from 11.2% in 1998 to 28.0% in 2004 - reflecting the appetite of this class of investor for BBB grade bonds, which promise high returns with relatively low default risk.

Table 9

Investor base for corporate bonds

	1998	1999	2000	2001	2002	2003	2004	Sept. 2005
Banks	5.3	4.9	8.1	12.8	12.8	14.3	12.2	11.5
Bank trusts	10.3	10.4	7.4	6.4	8.1	6.3	5.5	4.4
Investment trust companies	**62.4**	**60.2**	**29.5**	**20.8**	**18.7**	**11.9**	**15.3**	**13.9**
Security companies	8.7	12.3	15.0	13.8	15.5	20.0	21.0	23.0
Insurance companies	2.1	1.5	5.5	7.2	8.9	11.8	11.8	11.8
Pension funds	0.0	5.6	9.2	10.7	10.4	9.1	6.0	5.3
Mutual savings banks, credit unions, individuals, etc	11.2	5.0	25.3	28.4	25.6	26.5	28.0	30.1
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: Korea Securities Depository.

IV. Policy lessons

During the 1997 crisis, the corporate bond market became vulnerable to changes in the prevailing market climate, including both macroeconomic fundamentals and the market demand and supply interplays. This fragility has underlain the boom and bust cycles of the Korean corporate bond market since then. For instance, the huge increase in corporate bond issuance from the second half of 1998 to early 1999 resulted from the surge in fund inflows into ITCs' bond-type beneficiary certificates and was followed by a collapse in the corporate bond market and the bursting of the ITC deposit bubble in mid-1999. At the same time, market participants had to pay far more attention to the credit risk of non-guaranteed corporate bonds, as a large proportion of non-guaranteed bonds issued during the earlier boom needed to be rolled over. Between March 2003 and end-2003, another mild market meltdown occurred, prompting a series of measures by the authorities to stabilise the market.

Financing conditions in the Korean corporate bond market are likely to remain volatile for the foreseeable future. However, we have learned a number of lessons about the underlying causes of the problems in the corporate bond market, and have recognised that there are several important issues that must be tackled to create a normal, well functioning market. We discuss these below.

The first lesson is that a sudden and large increase in the outstanding volume of corporate bonds above a certain sustainable level is likely to impose a substantial burden on an economy, particularly on its financial stability going forward. The recent experience of Korea is a case in point.

The second lesson is that the prevailing credit quality of corporate bonds has an important bearing on the financial stability of an economy. Since the credit quality of corporate bonds is intrinsically volatile during the process of corporate sector restructuring, financing conditions in the corporate bond market in general are more likely to deteriorate sharply during such a period. However, a unique feature of the Korean experience is that there was a huge surge in the issuance of non-guaranteed corporate bonds during the process of corporate sector restructuring.

In retrospect, these huge surges in fund inflows into ITCs' bond-type beneficiary certificates made it possible for several large firms, including some non-viable companies, to raise funds through non-guaranteed corporate bonds. This, in turn, brought about improvements in liquidity positions, particularly those companies which could not have otherwise survived. This increase in liquidity helped bring about a quick economic recovery in the aftermath of the currency crisis. However, as investors became more concerned after the ITC deposit bubble burst and a big portion of the corporate bonds matured, financing conditions deteriorated sharply, threatening the financial stability of the economy. In particular, a large proportion of the maturing corporate bonds to be rolled over were issued by firms with lower credit ratings, which exacerbated the situation even further. From this, it is obvious that the elimination of these non-viable concerns is a necessary, although not sufficient, condition for the normalisation of the bond market. To achieve this normalisation, the authorities have to speed up the pace of corporate sector restructuring.

The third lesson is that weaknesses in institutional arrangements - including poor accounting practices, insufficient investor protection and inefficient liquidation procedures - contribute to turmoil in the corporate bond market and may amplify the magnitude of the disturbances. We know, for example, that the maintenance of the principle of historical cost valuation accounting for ITCs was partly responsible for the massive inflow of funds into ITCs' bond-type beneficiary certificates, as well as the subsequent big outflow. In stark contrast to this, the recent sharp run-ups in bond yields in January-February and June-October 2005 have not caused a run on the beneficiary certificates of ITCs, mainly because historical cost accounting has been scrapped in favour of mark-to-market accounting.

The fourth lesson is that when investors in the corporate bond market become highly risk averse while the credit risk of outstanding issues is increasing, securitisation of corporate bonds can be effective in tranching the credit spectrum to suit different needs. The Korean experience has been that the introduction of primary CBOs is key to avoiding the worst case scenario by easing the burden of rolling over the huge amount of maturing papers issued by firms with low credit ratings.

The fifth lesson is that development of the secondary market is important for reducing the impact of external shocks on the bond market. The currency crisis was a major blow to the Korean bond market because market-making intermediation in the secondary market was relatively underdeveloped at the time. Therefore, more effort should be devoted to developing market-making and enhancing transparency in the secondary market. To these ends, a number of measures should be considered. 1) The activities of inter-dealer brokers and regular dealers should be designed to give them distinct market-making roles. 2) To the extent that an efficient price discovery function is a prerequisite for a more transparent market with high liquidity, more effort should be made to encourage inter-dealer brokers and regular dealers to make two-way quotations on a real-time basis. 3) Various hedging instruments, short-term financing instruments and inventory stock adjustment tools should be introduced to aid market-making. In addition, the authorities' surveillance of secondary market activities needs to be strengthened to facilitate transparency and fair trading.

The final lesson is that the financial market instability caused by turmoil in the corporate bond market may pose a challenge to the central bank in its efforts to balance price stability and financial market stability. This in turn may severely constrain the scope for monetary policy of the central bank.

The corporate bond market in Malaysia

Muhammad bin Ibrahim and Adrian Wong[1]
Bank Negara Malaysia

Introduction

The growth of the Malaysian bond market can be traced back to the 1970s, when the government started issuing bonds to meet the massive funding needs of the country's development agenda at the time. By the mid-1980s, the private sector assumed a more important role in the strategic development of the Malaysian economy, with the aim of making it the main driver of growth as well as finance. During that period, the corporate sector was heavily reliant on finance from banks, which led the government to pursue the development of the corporate bond market as a key strategic priority. The 1997-98 Asian financial crisis brought home the folly of over-reliance on bank loans. Lessons learnt from the crisis led the government to step up its efforts to develop the corporate bond market, in order to offer the private sector alternative sources of finance and reduce funding mismatches.

Historically, because of the lack of a well-developed bond market, most of the credit intermediation in the country was done through the banking system. Potential credit withdrawals and the eventual credit squeeze suffered by the corporate sector during the Asian crisis highlighted the importance of risk diversification within the financial system. Consequently, development of the corporate debt market gained greater importance and was accelerated to allow greater diversification of credit risk among economic agents, as well as to provide funding with the appropriate maturity structures.

For the past 15 years, efforts to develop the Malaysian bond market have been fruitful. In terms of relative size of the bond market versus domestic bank credit, growth in the former has been quite significant. Another notable achievement is the successful promotion of the Islamic bond market. Islamic bonds, which comply with *Shariah* principles, have played a major role in Malaysia's capital market development, contributing to the significant growth of the country's Islamic financial system. Through this niche market, Malaysia is poised to play a strategic role in global Islamic finance.

The increasing demand from the private sector for innovative forms of finance continues to fuel the development of Malaysia's corporate bond market. Growth has also been spurred by the increasing presence of institutional investors, such as pension funds, unit trust funds and insurance companies. The Malaysian corporate debt market has enjoyed enormous growth, rising from MYR 4.1 billion in private debt securities (PDSs) outstanding in 1989 to approximately MYR 188 billion in 2004, an increase of 45 times. In addition, the Malaysian corporate bond market represents 37% of the country's GDP - by this measure, one of the largest in the world (IMF (2005) and Table 1). Furthermore, the Malaysian bond market accounted for 8% of the total Asian bond market (excluding Japan) in 2004.

[1] Muhammad bin Ibrahim is Assistant Governor of Bank Negara Malaysia (BNM) and Adrian Wong is Senior Executive, Investment Operations and Financial Markets Department of BNM. Opinions expressed are those of the authors and do not necessarily represent those of BNM. The authors wish to express their gratitude to Wan Hanisah, Arlina Ariff, Rustam Mohd Idris, Nazrul Hisyam, Loong Yeow Boon and Ariani Rustam for their comments.

Table 1

Size of local currency bond market as a percentage of GDP

End-March 2005 data

	Government	Corporate	Financial institutions
China	19.5	0.7	10.8
Hong Kong SAR	9.4	38.1	**
Japan	146.8	16.6	26.1
Korea	26.1	22.0	37.4
Malaysia	40.6	37.3	16.7
Singapore	40.3	31.6	**
Thailand	21.9	13.6	6.5
United States	47.0	21.5	90.2

Note: ** Hong Kong and Singapore: corporate data include financial institutions. For others, corporate refers to non-financial corporate issuers.

Sources: Asian Development Bank; Asian Bonds Online.

1. Key developments in the Malaysian bond market

The building of a comprehensive regulatory framework and a strong infrastructure, along with certainty of vision, political stability and sound macroeconomic policies, laid the foundation for the development of the Malaysian bond market.

Regulatory framework and market infrastructure

During the early years, the BNM, the government agency responsible for corporate bond issuance, took several initiatives to strengthen the legal/regulatory framework and market infrastructure in the underdeveloped primary and secondary markets. In March 1993, the Securities Commission (SC) was established to act as the single regulatory body to promote the development of the capital market, in particular to rationalise securities market regulations. (Prior to the establishment of the SC, a set of guidelines for PDS issuance was introduced in 1988.)

In addition, the Rating Agency Malaysia Berhad (RAM) and the Malaysian Rating Corporation Berhad (MARC) were established in 1990 and 1995, respectively, to provide independent opinions on the potential default risk of debt issuers and disseminate all appropriate information to existing and potential investors in a timely fashion. The Bond Dealers Association was established in June 1996 to represent the industry's views and work with regulatory authorities to promote the bond market. The Financial Markets Association of Malaysia (ACI Malaysia) was established in 1974 to monitor, develop and improve industry standards, and to bring them in line with international best practice. ACI Malaysia, whose membership comprised staff from treasury operations of Malaysia's financial institutions (including insurance companies) had adopted a Code of Conduct for the industry. To qualify as a member of ACI Malaysia, a rigorous qualifying examination must be passed.

On the operational front, various processes were computerised and put online by BNM to enhance cost-effectiveness and efficiency. These included the introduction of the Fully Automated System for Tendering (FAST) in September 1996, to speed up securities tendering, and the Real-Time Gross Settlement System (RENTAS) in July 1999, to reduce settlement risk. RENTAS was developed as a computerised scripless trading system to facilitate faster and more efficient trading, registration and settlement of securities. The Bond Information and Dissemination System (BIDS) was introduced in October 1997 to facilitate efficient trading and promote transparency of information related to domestic debt securities. In an effort to further improve liquidity in the market, the Securities Borrowing and Lending (SBL) Programme was introduced in December 2001 via the RENTAS system, and the Institutional Securities Custodian Programme (ISCAP) was implemented in October 2004 to promote lending of securities to the central bank. For the Islamic bond market, an internet-based platform

system (Islamic Interbank Money Market - IIMM) was launched in September 2004 to provide transparency of information on Islamic financial products.[2]

An important milestone in the broader bond market development agenda was the creation of the National Bond Market Committee (NBMC) in 1999. Its members comprised senior representatives from the Ministry of Finance, the Economic Planning Unit, BNM, SC, Bursa Malaysia and the Registrar of Companies. Its purpose is to oversee the policy direction for the development of the bond market, and to identify and recommend appropriate implementation strategies. As a first step, the NBMC has authorised the SC to be the single regulatory body to regulate and promote the development of the corporate bond market.

To chart future growth, the Capital Market Masterplan (CMP) was unveiled in 2001. A Capital Market Strategic Committee (CMSC) consisting of high-level representatives from the SC and the private sector was established in September 1999 to facilitate the development of the CMP. The CMP is the strategic blueprint for the Malaysian capital market over the next decade, of which six broad objectives are spelt out:

- to be the preferred fund-raising centre for Malaysian companies;
- to promote an effective investment management industry and a more conducive environment for investors;
- to enhance the competitive position and efficiency of market institutions;
- to develop a strong and competitive environment for intermediation services;
- to ensure a stronger and more facilitative regulatory regime; and
- to establish Malaysia as an international Islamic capital market centre.

The CMP has been divided into three stages, spanning a period of 10 years and involving 152 detailed recommendations that seek to fulfil the realisation of a robust and dynamic Malaysian capital market. (See Table 2.) By end-June 2005, 96 recommendations (63%) had been put in place, while the remaining ones are still at the implementation stage.

CMP initiatives were directed at key specific areas, and have included the enhancement of the fund-raising process, ensuring the robustness and efficiency of the bond market microstructure and expanding both the issuer and investor base.

With the essential building blocks in place, the development of the bond market has proceeded at a steady pace towards the accomplishment of key goals, such as the establishment of a benchmark yield curve, improvement in secondary market liquidity and the introduction of new asset classes to the market. (See Table 3 for specific initiatives.)

Table 2

Implementation plan for the CMP

Phase 1 (2001–03)	Phase 2 (2004–05)	Phase 3 (2006–10)
Strengthen domestic capacity, and develop strategic and nascent sectors	Further strengthen key sectors and gradually liberalise market access	Further expansion and strengthening of market processes and infrastructure towards becoming a fully developed capital market, and enhancing international positioning in areas of comparative and competitive advantage

Source: The Securities Commission.

[2] The website (http://iimm.bnm.gov.my) provides information on Islamic money market operations, forthcoming tenders and post-issuance prices of Islamic securities, live information on last done prices of actively traded securities and news related to the Islamic market.

Table 3

Strategic developmental initiatives for the Malaysian bond market

Strategy	Initiatives
Introducing an efficient and facilitative issuance process	Release of Guidelines on the Offering of PDSs - 2000
	Introduction of a shelf-registration scheme - 2000
	Release of Guidelines on the Offering of Asset-backed Securities (ABSs) - 2001
	Release of Asset Securitisation Report - 2002
	Introduction of Guidelines on the Offering of Islamic Securities - 2004
Establishing a reliable and efficient benchmark yield	Introduction of an auction calendar for Malaysian Government Securities (MGS) - 2000
	Review of the principal dealers system
Widening the issuer and investor base	Broadening of the investor base under the Securities Commission Act for the OTC market
	Universal Brokers are allowed to trade in the OTC market - 2002
	ABSs are introduced together with tax-neutral framework and tax deductions on issuance expenses - 2003
	Islamic PDSs are accorded various tax incentives (eg stamp duty waiver, tax deductions on issuance expenses) and a tax-neutral framework - 2003, 2005
	Multilateral development banks, multilateral financial institutions and multinational corporations are allowed to raise ringgit-denominated bonds - 2004
	Removal of withholding taxes on interest income earned on investments by non-resident companies in ringgit-denominated Islamic securities and securities issued by the Malaysian Government - 2004
Improving liquidity in the secondary market	Non-financial institutions are allowed to enter into repurchase transactions - 2000
	The Securities Borrowing and Lending Programme is introduced via the RENTAS system - 2001
	Institutional Securities Custodian Programme (ISCAP) is put in place to encourage institutional investors to lend securities to BNM - 2004
Facilitating the introduction of risk management instruments	Introduction of three-, five- and 10-year MGS futures - 2002, 2003
	Introduction of Guidelines on Regulated Short-selling of Securities - 2005

Sources: Bank Negara Malaysia; Securities Commission.

Regional cooperation

The Malaysian domestic bond market has also benefited from regional cooperation in East Asia. Local and cross-border impediments have been addressed through the sharing of experiences and technical expertise, as each country has strived to add depth and breadth to its own domestic market. Three regional forums have been at the forefront of financial development in the region, namely the Asia-Pacific Economic Cooperation (APEC), the Association of Southeast Asian Nations Plus 3 (ASEAN+3) and the Executives' Meeting of East Asia and Pacific (EMEAP) Central Banks. These three forums focus on different aspects of local bond market development.

The successful launch of Asian Bond Fund I (ABF1) by EMEAP, which pooled USD 1 billion in reserves from 11 central banks and invested in USD-denominated bonds of sovereigns and quasi-sovereigns, led to the recent launch of the second fund, Asian Bond Fund II (ABF2). The second fund involves the creation of local currency bond funds in each EMEAP market, and consists of the Pan-Asian Bond Index Fund and eight single market funds. Launching these funds has forced participating central banks to face market impediments head-on, and address them as a group.

The listing of Malaysia's first exchange-traded fund (ETF), the ABF Malaysian Bond Index Fund, in July 2005, marked another important milestone in bond market development. The ETF was the second country sub-fund to be launched, following the successful listing of the ABF Hong Kong Bond Indexed Fund in June 2005. The fund consists of investments in government and quasi-government securities and tracks an index, which by design is replicable and transparent, paving the way for the introduction of other innovative products by the corporate sector in future. The listing of the ETF on Bursa Malaysia (the Malaysian Stock Exchange) should also generate interest on the part of domestic and international investors in the local bond market.

2. The corporate bond (PDS) market

At the end of 1986, the PDS market was virtually non-existent in Malaysia. This was in contrast to the equity and government debt markets, both of which had achieved a reasonable level of sophistication and maturity by that time. PDSs outstanding in 1987 amounted to only MYR 395 million (0.5% of GDP), versus the market capitalisation of the Kuala Lumpur Stock Exchange (KLSE) of MYR 73.8 billion (91% of GDP) and the outstanding amount of Malaysian Government Securities (MGS) of MYR 48.8 billion (60.2% of GDP).

Importance of a functioning corporate debt market

The period of strong economic growth in the early 1990s created high demand for funds from the corporate sector. Therefore, the development of the corporate bond market was aimed at meeting the financing needs of the expanding Malaysian economy, particularly those of privatised infrastructure projects. Specifically, the PDS market was intended to provide an alternative means of financing to bank borrowings, and complement the more mature and sophisticated market in MGS and equities. The PDS market would also serve as a new avenue for savings in a wide range of financial assets, in the context of a high domestic saving rate.

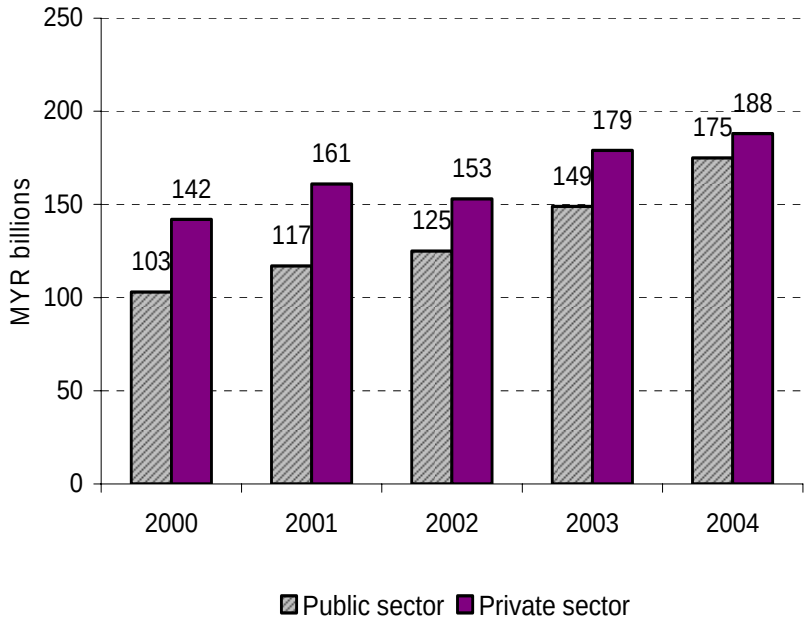
It is a well-recognised fact that a diversified financing structure, comprising financial intermediaries from the equity, bond and banking markets, is needed for an economy to allocate resources in the most efficient manner. Such diversification also provides businesses the opportunity to address capital needs more effectively, and allows corporates to match their asset-liability profiles. A well-developed corporate bond market also plays a vital role in risk diversification of the financial system, and adopting a market mechanism in the allocation and pricing of credit would also ensure greater efficiency in the allocation of funds to borrowers.

Characteristics of the Malaysian corporate bond market

Through the efforts of the government and market participants, and reinforced by strong economic growth, the Malaysian PDS market has expanded considerably over the years. Ample liquidity and an accommodative interest rate environment have supported the growth of the bond market by enabling the private sector to source funds at a competitive cost. Since 2000 onwards, private debt issuance has exceeded public debt issuance. (See Graph 1.)

Graph 1

Total bonds outstanding



Source: BNM Annual Report 2004.

Table 4

Size of local currency bond market

End-March 2005 data

	Total size (USD billions)	% share	
		Government	Corporate**
China	527.7	62.9	37.1
Hong Kong SAR	79.6	19.8	80.2
Indonesia	52.8	87.1	12.9
Japan	8943.8	77.5	22.5
Korea	606.5	30.6	69.4
Malaysia	114.7	42.9	57.1
Singapore	78.2	56.0	44.0
Thailand	70.2	52.1	47.9

**Note: Corporate data include financial institutions.

Sources: Asian Development Bank; Asian Bonds Online.

Compared with selected economies in Asia, Malaysia has achieved a balance in terms of debt composition between its public and private bond markets. At 57%, Malaysia has the third highest proportion of debt issued by the private sector, behind Hong Kong (80%) and Korea (69%). (See Table 4.) Below we discuss the various factors that have brought the market to this stage of development.

Improved issuance procedures

To streamline the issuance process, the merit-based regulation (MBR) was replaced by the disclosure-based regulatory (DBR) framework. The SC's *Guidelines on the Offering of Private Debt Securities*,

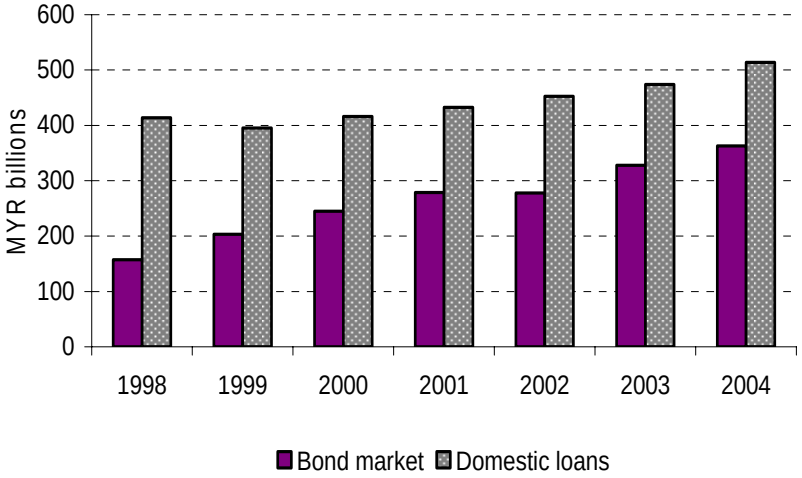
which came into effect in July 2000, have played an important role in promoting an efficient issuance process.

In the mid-1990s, the approval process for bond issuance could take from nine to 12 months. The long waiting period created uncertainty - and therefore a disincentive for companies to seek funding through the bond market, where timing is a crucial element in determining the success of an issue. Thanks to the introduction of the PDS guidelines, an issuer can now secure an approval within 14 days after submission of complete documentation.

The introduction of a shelf-registration scheme has also provided issuers additional flexibility in timing of issuance. The scheme allows eligible corporations to make multiple issues of debt securities within a two-year period with one-time approval, subject to certain criteria. The efficiency of the issue process, in particular the large financing potential of the shelf-registration scheme, has started to convince the private sector that financing through the bond market may offer a viable alternative to bank loans and the equity market (see Graph 2).

Graph 2

Size of bond market vs domestic loans



Source: BNM statistics.

The liberalisation of issuance procedures has made it more attractive for issuers to tap funds in the corporate bond market than in the equity market. In 1997, PDS issues accounted for 44.3%[3] of the total gross domestic funds raised via the capital market (ie bond and equity) by the private sector - and in 2004, this figure had reached 81.2%. Currently, the corporate bond market accounts for approximately a quarter of the total debt financing (including bank loans) in the economy, compared to approximately 10% in 1997.

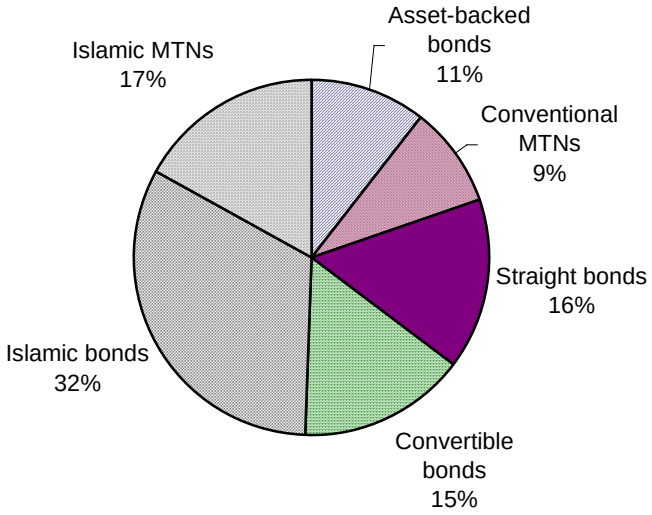
Product diversification

As the bond market has evolved over the years, the corporate funding scene has become more active and financing solutions have become more innovative and sophisticated to meet the diverse risk-return profiles and needs of both issuers and investors. Also, regulatory frameworks have kept pace with market developments. Specifically, guidelines such as *Guidelines on the Offering of Asset-backed Debt Securities* (2001) and *Guidelines on Offering of Islamic Securities* (2004) have facilitated the registration and issuance process and promoted the creation of new asset classes.

[3] Data exclude Cagamas bonds. Cagamas, or the National Mortgage Corporation, was incorporated in December 1986 to support the national home ownership policy. Cagamas purchases housing loans from financial institutions and securitises them into Cagamas bonds. The exclusion of Cagamas issues provides a better picture of the corporate debt market.

Graph 3

Issues by instrument type (excluding Cagamas)



Source: BNM Annual Report 2004.

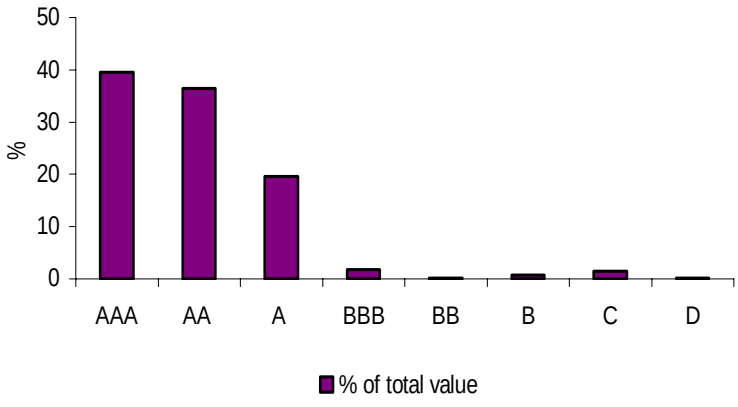
Over the years, Islamic PDSs (including Islamic Medium-Term Notes, or MTNs) have become the preferred means of debt funding, accounting for 49.4% of total issuance in 2004. (See Graph 3.) This development is quite understandable given that both Islamic and non-Islamic investors can invest in *Shariah*-compliant products. The bigger investor base for these products has led to more competitive bidding, which has driven down issuance costs - making it increasingly attractive to issue *Shariah*-compliant instruments.

Rating requirements

Prior to July 2000, all corporate bond issues in Malaysia were subject to a mandatory minimum rating requirement of BBB or above, which not only instilled confidence in issuance, but also indirectly helped Malaysia's relatively new rating agencies (RAM and MARC) to develop. However, this minimum rating rule was subsequently lifted.

Graph 4

Rating distribution of outstanding PDS issues (end-2004)



Sources: MARC; RAM.

Even though the minimum rating requirements on credit ratings have been scrapped (mandatory rating is still required), the credit profile of corporate bonds remains skewed towards the higher end of the credit spectrum (A and above), with approximately 5% of outstanding issues rated BBB or below. (See Graph 4.) This reflects investors' risk preference for high-quality debt issues, and can be seen in the yield spread. The wide spread between A and BBB bonds (see Table 5) is probably a reason for smaller issuance of bonds rated BBB and below: at these levels, it would be cheaper for lower-rated credits to raise funds via other alternatives.

Table 5

Spot yield matrix

End-October 2005 data

Type	Class	Tenor			
		1Y	3Y	5Y	10Y
Government	MGS	3.10	3.38	3.64	4.29
Corporate	AAA	3.47	3.91	4.23	5.13
	AA	3.51	4.19	4.49	5.27
	A	4.05	4.75	5.09	5.95
	BBB	4.72	6.47	7.08	8.89
	BB	6.84	10.57	11.22	13.59
	B	10.2	17.29	17.88	21.60

Source: Bondweb Malaysia.

Nevertheless, with continued strong demand by investors, companies with strong credit ratings will continue to tap the corporate bond market at competitive rates. Despite the lifting of rating requirements, market norms dictate that bond issues should still carry credit ratings. Moreover, experience has shown that ratings promote greater acceptance among investors for fixed income securities, as they allow both investors and issuers to gauge returns and analyse the cost of raising funds.

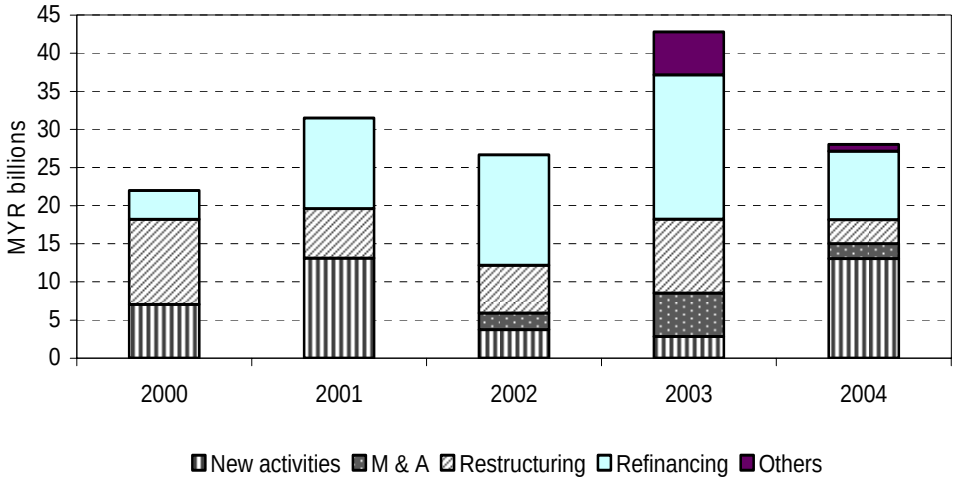
Sector allocation and maturity profiles

Due to the economy's strong growth, the bulk of corporate bond issuance in the mid-1990s was for infrastructure (transportation and communication systems), utilities (electricity, gas and water) and construction.

Between 2000 and 2003, a significant proportion of issuance was for restructuring, made necessary by the adverse financial position of companies in the wake of the crisis. This type of issuance has fallen considerably since then, reflecting the completion of most corporate restructuring exercises. With the expanding economy, funds raised are now used for new activities, ie investments in positive NPV projects and business expansion, and because of the low interest rate environment, bonds are also issued for refinancing purposes. (See Graph 5.)

Graph 5

PDS issues by purpose



Source: BNM statistics.

In 2004, companies from the construction and utilities sectors were the main PDS issuers, raising 31.5% and 28.0% of total funds, respectively. (See Table 6.) Issuers from these sectors are the country's major infrastructure developers, water authorities and independent power producers, all of whom require long-term and flexible financing.

Table 6

New PDS issues (excluding Cagamas) by sector

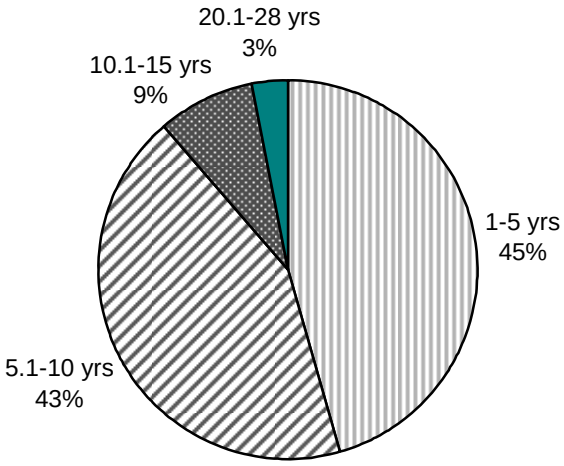
	2000	2001	2002	2003	2004
Total issuance (MYR millions)	21,991.9	31,502.4	26,660.4	42,790.4	28,049.9
	% share				
Agriculture, forestry and fishing	0.2	0.2	3.6	2.3	0.0
Manufacturing	6.2	8.0	6.7	21.2	11.6
Construction	8.9	10.5	8.2	14.1	31.5
Electricity, gas and water	15.3	32.0	5.1	8.0	28.0
Transport, storage and comm.	34.1	12.0	34.1	20.1	2.8
Finance, insurance, real estate and business services	21.5	16.3	20.7	19.6	17.0
Government and others	0.0	20.2	17.4	14.7	4.7
Wholesale and retail trade, restaurants and hotels	13.8	0.8	4.2	0.0	4.4

Source: BNM statistics.

Reflecting the significant financing requirement of companies of this nature, a large proportion of the corporate bonds were issued with tenures of five to 10 years. An encouraging development on this front has been the increasing number of companies able to tap longer-term funds, with one bond issued in 2003 with a maturity of 28 years. (See Graph 6.)

Graph 6

PDS issuance (excluding Cagamas) by tenor, 2004



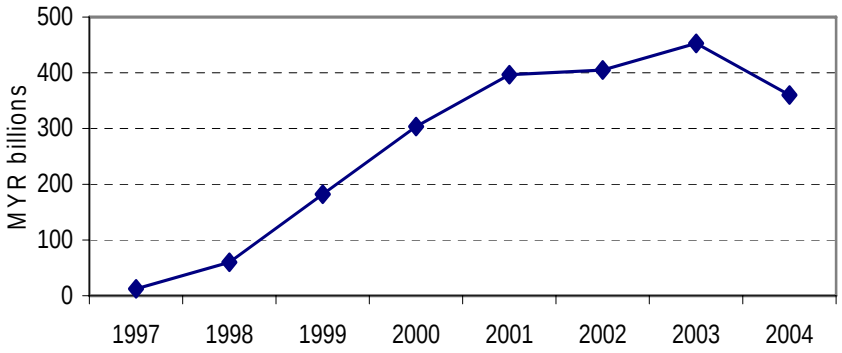
Source*: BNM Annual Report 2004*.

Secondary market

Liquidity in the corporate debt market is still improving, attributed to various efforts to enhance trading activity, such as the introduction of a principal dealers system and improvement of the information dissemination mechanism in the OTC market. (See Graph 7.) However, liquidity in the secondary market continues to be hampered because of a shortage of paper available for trading, reflecting small issue sizes and the buy-and-hold investment strategy adopted by insurance companies, asset managers and large institutional investors dominated by the government-controlled funds (such as the Employees Provident Fund and savings institutions such as the Pilgrims Fund Board).

Graph 7

Turnover of debt securities



Source: BNM statistics.

Post-trade transparency

To facilitate efficient trading and increase liquidity in the OTC debt securities market, the Bond Information and Dissemination System (BIDS) was introduced in October 1997 to enhance transparency of bond information. BIDS is a central computerised database of ringgit debt securities, providing information on issue terms, real-time prices, transaction details and relevant news on the various government and private debt securities. Financial institutions are obliged to report details of

transactions, including price and volume, while rating agencies are required to update issuers' ratings in the BIDS corporate homepages.

Fiscal incentives

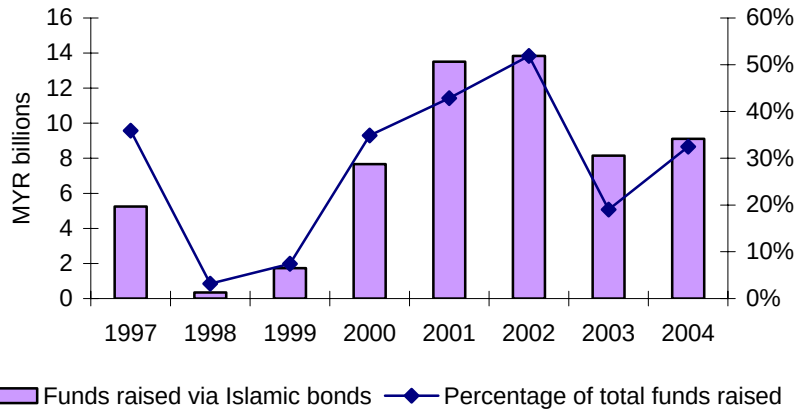
Tax incentives have also played a major role in the continuous growth of the corporate debt market. For example, stamp duty waivers and tax exemptions on income earned on securities have been granted to widen the issuer and investor base. In addition, a tax-neutral framework has been introduced, whereby ABS issues and Islamic PDS issues are treated like conventional securities for purposes of taxation

3. The Islamic PDS market

The Malaysian Islamic PDS market has shown remarkable progress since its introduction in 1990. Malaysia has successfully created a niche market in this area: it is estimated that 85% of the total global Islamic bonds that have been issued were issued in Malaysia, making Malaysia one of the world's largest Islamic bond markets. The growth of Malaysia's Islamic bond market is demonstrated by the issue size of Islamic PDSs. (See Graph 8.) In 2004, Islamic PDS issuance amounted to MYR 9.1 billion, accounting for 32.5% of total PDS issuance.

Graph 8

Islamic bond issuance (excluding Cagamas) in Malaysia



Note: Issuance does not include Islamic MTNs.

Source: BNM statistics.

In 2001 and 2002, Islamic bonds were extremely popular with issuers and investors alike, eclipsing conventional bonds and accounting in both years for more than 50% of issuance - up significantly from 34.9% in 2000. Demand for Islamic paper by Islamic and conventional investors was strong, and major issuers, in particular the toll road concessionaires and power supply companies, took advantage of lower issuance costs as the demand led to more competitive bidding.

Structure of Islamic products

A prerequisite for Islamic bonds, or *Sukuk,* is compliance with the *Shariah* (Islamic laws), which prohibits the charging of interest (*riba*). A *Sukuk* instrument is structured so that it involves an exchange of *Shariah*-compliant assets for a financial consideration that allows the investors to earn profits and rentals from transactions in the future.

There are various types of Islamic-based structures used for the creation of Islamic bonds, but the more prominent are sale and purchase of an asset based on deferred payment (*bai' bithaman ajil*); leasing of specific assets (*ijarah*); and a profit- and loss-sharing scheme (*musyarakah*). There are also a number of innovative instruments recently pioneered by market players involving the gamut of Islamic financial principles, including *istisna* (project finance), *murabahah* (cost-plus sale), *mudharabah* (profit-sharing), and *qard* (interest-free loan).

In the case of Malaysia, the majority of Islamic bonds are debt-based instruments, ie *murabahah* and *bai' bithaman ajil*. With the new *Guidelines on Offering Islamic Securities* issued in 2004 by the SC, issuers are no longer constrained by the legal concept of debentures (debt-based), as required for conventional products. It is envisaged that these guidelines will promote the development of new Islamic products, and, in particular, encourage the issuance of products that are based on profit- and loss-sharing, such as *mudharabah* and *musyarakah*. In an effort to promote issuance of Islamic debt securities via the principles of *mudharabah*, *musyarakah* and *ijarah*, expenses incurred by issuers are allowed as deduction for computation of income tax for a period of five years.

Growth and acceptance of Islamic bonds

The increasing popularity of Islamic bonds is attributable to several factors. First, Islamic PDSs provide an avenue for Islamic-based investors who need to invest in *Shariah*-compliant instruments. Second, Islamic products have also appealed to conventional investors who are constantly looking for liquid, attractively priced instruments to obtain capital gains and income. The strong demand by investors also provides the opportunity to issuers to finance borrowing at a lower cost. Third, the Malaysian government has been actively involved in creating an efficient price discovery process for Islamic securities through its issuance of Malaysian Islamic Treasury Bills (MITBs) and Government Investment Issues (GIIs), which has led to the establishment of an Islamic benchmark yield curve.

Over the years, Islamic capital market products have garnered universal acceptance as viable alternatives to conventional products. There has been clear evidence of the acceptability of the products to non-Muslims, both issuers and investors. As an indication of the success of Malaysia's Islamic capital market, 49.4% of funds raised in the PDS market in 2004 were through Islamic products. The success of "mainstreaming" Islamic bonds could be replicated internationally, considering the estimated size of the global Islamic financial system and the latent demand for *Shariah*-compliant financial instruments.

Malaysia as an Islamic capital market centre

The CMP also provided a detailed long-term strategy to promote the Islamic capital market in line with Malaysia's core areas of competitive advantage. Recent measures by the authorities have facilitated cross-border issuance and investment of Islamic bonds, including:

- allowing supranationals and multinational corporations to issue MYR bonds;
- allowing investors to invest in foreign securities on exchanges recognised by Bursa Malaysia;
- allowing sophisticated investors to execute secondary trades in non-MYR bonds without SC approval; and
- liberalising the framework for issuance of foreign currency denominated bonds

4. Liberalisation measures

In an effort to further widen the issuer base and diversify credit risks, the foreign exchange administration rules were further liberalised in 2004 to allow supranationals and multinational corporations to issue MYR-denominated bonds in the domestic market. This was a major step forward in attracting international participation and bringing the Malaysian corporate debt market to another level of development.

Efforts proved to be successful, as there were three issues by multilateral development banks within 12 months of the new measures:

- November 2004 - Issuance of MYR 400 million Putra Bonds (fixed rate bonds) by the Asian Development Bank
- December 2004 - Issuance of MYR 500 million Wawasan Bonds (Islamic debt securities) by the International Finance Corporation
- May 2005 - Issuance of MYR 760 million Wawasan Bonds by the International Bank for Reconstruction and Development.

The three issues reflected the maturity and sufficient depth of the Malaysian market as a reliable source of competitively priced funds. The depth of the market also reflected the increase in non-resident holdings of Malaysian PDSs, which was partly attributable to the other measures introduced, whereby withholding tax on non-residents for investment in Islamic PDSs was abolished in 2004 and hedging arrangements by residents and non-residents are allowed for trading of debt securities effective April 2005.

5. Policy issues and challenges

Although the Malaysian corporate bond market has undergone tremendous change and growth over the last decade, several issues and challenges remain. In particular, liquidity in the secondary market needs to improve to a level comparable to that in Malaysian government securities. Other areas that require further development include:

- deepening of the swap market;
- creation of additional risk management tools, eg futures and forwards;
- further diversification of the issuer and investor base;
- enhanced participation by non-residents;
- promotion of larger issue size by corporations; and
- creation of a financial guarantee mechanism to enhance credit ratings.

In addition, the varying stages of bond market development within the region hinder market integration and harmonisation. Regional cooperation organisations, such as APEC, ASEAN+3 and EMEAP Central Banks, will provide an important platform for the further reduction of impediments to cross-border integration. The overall development of the corporate bond market within the region is key because it will create competition enabling issuers and investors to venture into multiple markets in pursuit of better pricing and returns.

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International Monetary Fund (2005): *Global Financial Stability Report*, September.

Rating Agency Malaysia (2005): "*Special Report: 2004 corporate default and rating transition study"*, April.

For further information on the Malaysian bond market, please visit:

http://www.bnm.gov.my

http://rmbond.bnm.gov.my

http://fast.bnm.gov.my/fastweb

http://iimm.bnm.gov.my

http://www.sc.com.my

http://www.bondweb.com.my

The New Zealand corporate bond market

Simon Tyler[1]
Reserve Bank of New Zealand

Introduction

The paper explains how the domestic corporate bond market operates in New Zealand today, and outlines the form and types of issuance, as well as the breakdown of outstanding issues by credit rating and sector. It also provides a summary of the offshore New Zealand dollar (NZD) corporate bond market, which has experienced a period of significant growth in recent years as a result of New Zealand's relatively high interest rates and current account imbalance.

The New Zealand corporate bond market consists of all bonds that are not issued by the central government. This categorisation includes stated-owned enterprise (SOE) bonds, local authority bonds, mortgage-backed securities (MBSs), rated bonds issued by New Zealand corporates and lower-grade hybrids issued by New Zealand corporates.

The majority of New Zealand's corporate debt is issued in the three- to ten-year tenor of the yield curve; however, there have been issues with maturities as long as 15 years. Typically, New Zealand corporates have obtained short-term (one–five years) funding from banks, and have turned to the corporate bond market for longer-term funding.

New Zealand's corporate bond market started to develop in the late 1980s, following the deregulation of the country's financial system and floating of the NZD in 1985. Prior to this time, bond market activity consisted of local government bodies issuing small amounts of paper on a tap[2] basis.

The first issuance of larger tranches of corporate bonds by non-government entities occurred in the late 1980s, and these were by SOEs. Since the early 1990s, several commercial entities have used the corporate bond market as an alternative source of funding.

However, there has been little growth in the New Zealand domestic corporate bond market since that initial flourish. There are a number of possible reasons for the stagnation, including:

- The New Zealand fund management industry has experienced very little growth over the last decade, and has not created demand for financial assets;
- New Zealand has had a negative or flat yield curve for much of the period since deregulation, and highest point on the yield curve has often been 90 days. This has made short-term bank deposits very attractive with household savers and made it difficult to attract long term funds at a lower yield than the short term yield; and
- New Zealand has a well-developed and actively traded FX market, with the result that domestic corporates can access offshore capital markets, and hedge currency risks efficiently using the currency and interest-rate swap markets.

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[1] Manager, Market Operations, Financial Stability Department, Reserve Bank of New Zealand (RBNZ).

[2] Local authorities often issued loans in small tranches up to a set level. As the need for funding arose, the local authorities would "tap" the market with a new tranche at a specified yield. The dollar value of many of these loans was very small and the amount "tapped" each time could be as low a few tens of thousands of dollars. Tendering of bonds started in the mid-1980's with government bonds.

Table 1

The characteristics of most corporate debt issues are similar to those of government debt issues

Issuance	Bonds are issued by the borrower as a registered security.
Registration	The bonds must be registered with a registrar.
Maturity	Maturities typically range from one to ten years, with maturities most often being in the two to seven year range.
Principal	The principal is usually redeemable at par on maturity.
Coupon	The coupon rate and frequency of payment are specified when the bond is issued. Most bonds are issued with semi-annual coupons to facilitate comparisons with government bonds.
Amount	The size of the issue is dependent on the borrower's requirements and the likely demand from investors.
Pricing	The formula for pricing bonds that pay a semi-annual coupon is the same as that used to price government bonds. Other types of bonds are priced on the same present value of future cash flows approach, but adapted to the requirements of the specific security.
Sale	Bonds are usually sold by tender or private placement. A number of bond issues are sold through brokers to retail investors.
Margin	The majority of corporate bonds are issued at a margin relative to the interbank swap rate.

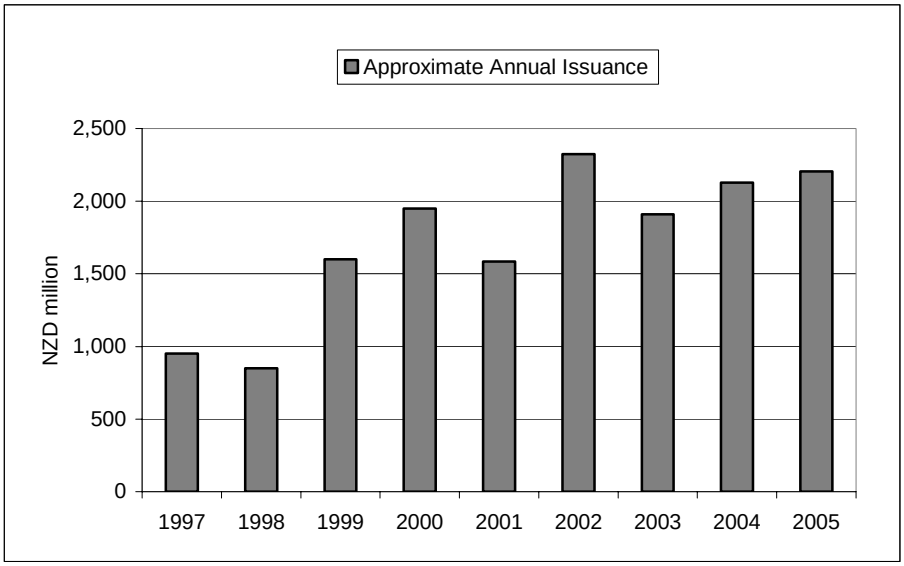
Issuance

Annual issuance in the corporate bond market is set out in Graph 1.

Graph 1

New Zealand corporate bond market: approximate annual issuance

(NZD millions)



Sources: RBNZ and Bloomberg.

Corporate debt is issued in a number of different ways, principally by dealer panel (typically associated with a fixed-rate re-offer), and through tender and tap issues. Under New Zealand securities law, there are two main types of issuance: wholesale and retail.

A wholesale issue does not require the issuer to produce a prospectus, but can only be sold to professional and habitual investors. In New Zealand, there are less than a dozen major fund management companies, but a couple of hundred smaller investment pools. Wholesale issues are targeted at both these groups and, typically, will have a minimum purchase amount of NZD 100,000.

A retail issue must be sold under a prospectus, and can be sold to all members of the public (including wholesale investors). The minimum purchase amount can be as little as NZD 1,000.

Anecdotal evidence suggests that 99.9% of issuance is done by dealer panel, particularly when issue size is greater than NZD 50 million. Dealer panels are usually comprised of a small number of market participants appointed by the issuer. Panel members have exclusive distribution rights for the primary issue, as well as facilities for borrowing stock and relevant market information. Most deals bigger than NZD 50 million have a "co-lead manager", though panels do not usually have more than three members.[3] The trend is for these panels to do a road show, conducting one-to-one meetings with client representatives, issue managers and "A-list" investors. A-list investors are often divided between the lead and co-managers to avoid over-marketing the debt. In most cases, issuers pay performance-based fees to panel members to reflect support of primary issues, the promotion of these securities in the secondary market, and the provision of economic and debt management advice.

The other two methods of issuance, tap and tender, have been recently introduced in New Zealand. NZ Telecom has issued some tap debt, and Auckland City Council has issued via tenders. Tap issues are less liquid than others, and, consequently, trade at a premium. Smaller borrowers, such as GMAC and Primus, seem to prefer tap issues, as these are more easily adapted to prevailing business conditions and borrowing requirements.

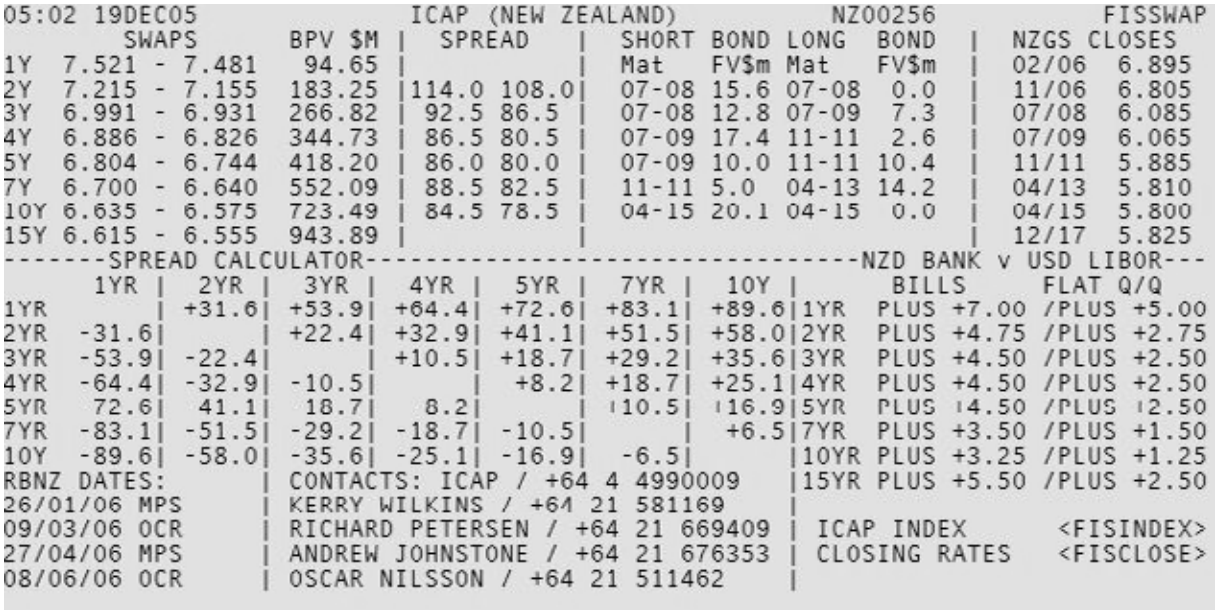
Rate setting for corporate debt

Rate setting on corporate debt is done in a variety of ways by market participants. Some will do the rate set at 11.30 am by faxing three or four other banks and asking them for rates. They will also refer to the swaps screen. New Zealand government bond (NZGB) tender results are not used. Other dealers will use the Reuters page for an underlying NZGB rate, or look at a broker's swaps screen (eg the Reuters page FISSWAP as depicted in Graph 2).

[3] In Australia, dealer panels can range in size from five to 20 members, who tend to be the most active players, demonstrating a commitment to price-making in the secondary market.

Graph 2

Example of Reuters FISSWAP page



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05:02 19DEC05              ICAP (NEW ZEALAND)          NZ00256          FISSWAP
        SWAPS      BPV $M |  SPREAD   |  SHORT BOND LONG  BOND  |  NZGS CLOSES
1Y  7.521 - 7.481   94.65 |           |  Mat   FV$m Mat   FV$m  |  02/06  6.895
2Y  7.215 - 7.155  183.25 |114.0 108.0|  07-08 15.6 07-08  0.0  |  11/06  6.805
3Y  6.991 - 6.931  266.82 | 92.5 86.5 |  07-08 12.8 07-09  7.3  |  07/08  6.085
4Y  6.886 - 6.826  344.73 | 86.5 80.5 |  07-09 17.4 11-11  2.6  |  07/09  6.065
5Y  6.804 - 6.744  418.20 | 86.0 80.0 |  07-09 10.0 11-11 10.4  |  11/11  5.885
7Y  6.700 - 6.640  552.09 | 88.5 82.5 |  11-11 5.0  04-13 14.2  |  04/13  5.810
10Y 6.635 - 6.575  723.49 | 84.5 78.5 |  04-15 20.1 04-15  0.0  |  04/15  5.800
15Y 6.615 - 6.555  943.89 |           |                         |  12/17  5.825
-------SPREAD CALCULATOR-----------------------------------NZD BANK v USD LIBOR---
      1YR |  2YR |  3YR |  4YR |  5YR |  7YR |  10Y |      BILLS     FLAT Q/Q
1YR       | +31.6| +53.9| +64.4| +72.6| +83.1| +89.6|1YR  PLUS +7.00 /PLUS +5.00
2YR  -31.6|      | +22.4| +32.9| +41.1| +51.5| +58.0|2YR  PLUS +4.75 /PLUS +2.75
3YR  -53.9| -22.4|      | +10.5| +18.7| +29.2| +35.6|3YR  PLUS +4.50 /PLUS +2.50
4YR  -64.4| -32.9| -10.5|      |  +8.2| +18.7| +25.1|4YR  PLUS +4.50 /PLUS +2.50
5YR   72.6|  41.1|  18.7|   8.2|      | +10.5| +16.9|5YR  PLUS +4.50 /PLUS +2.50
7YR  -83.1| -51.5| -29.2| -18.7| -10.5|      |  +6.5|7YR  PLUS +3.50 /PLUS +1.50
10Y  -89.6| -58.0| -35.6| -25.1| -16.9|  -6.5|      |10YR PLUS +3.25 /PLUS +1.25
RBNZ DATES:      | CONTACTS: ICAP / +64 4 4990009   |15YR PLUS +5.50 /PLUS +2.50
26/01/06 MPS     | KERRY WILKINS / +64 21 581169    |
09/03/06 OCR     | RICHARD PETERSEN / +64 21 669409 | ICAP INDEX      <FISINDEX>
27/04/06 MPS     | ANDREW JOHNSTONE / +64 21 676353 | CLOSING RATES   <FISCLOSE>
08/06/06 OCR     | OSCAR NILSSON / +64 21 511462    |
```

Source: Reuters.

Secondary market in corporate bonds

In New Zealand, there is only a small and relatively illiquid secondary market for corporate bonds. There are no official market-makers; however, dealer-panel members are expected to make markets in the securities they have brought to market, which means that they often quote two-way prices continuously in the secondary market. Demonstrating that they are willing and able to provide liquidity gives panel members a greater chance of getting primary issue business.

Most secondary market deals are done on a best-endeavour basis. Some of the local banks, however, do undertake to make markets for their better clients. Spreads in this market are wider than those in the government bond market, and will often depend on the client and the volume to be dealt. One to six basis points is typical.

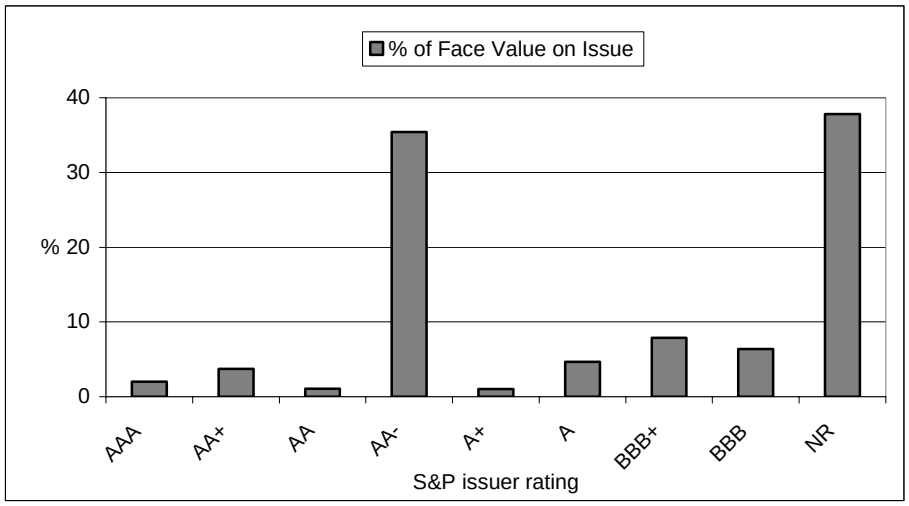
Typical owners of New Zealand corporate debt are retail investors, top fund managers, institutional investors and banks. Non-profit and religious organisations also hold corporate debt on their balance sheets. There is not much overseas interest in the New Zealand corporate debt market because of tax issues. “Credit is expensive in New Zealand” is the main reason given for the lack of offshore interest. Also, some issues have clauses that confine sales to the local market.

Credit ratings for corporate debt issued in 2005

Graph 3 shows the rating profile of corporate debt outstanding. At the moment, there are approximately 30 major domestic issuers of corporate bonds in New Zealand. Of domestic issues outstanding, just under 50% had ratings of A or higher, while the remainder had ratings of BBB+ or lower or were unrated.

Graph 3

Credit ratings of New Zealand corporate debt



Note: The percentages are based on the face value of debt in the market with such a rating.

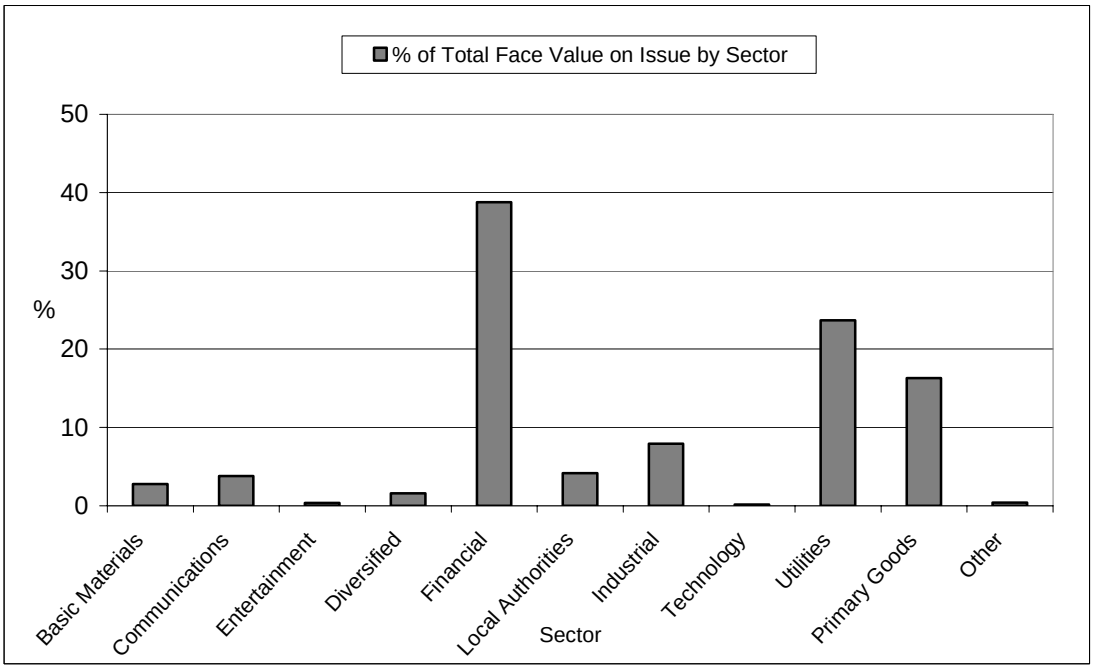
Source: Bloomberg.

NZ corporate bonds by sector

Graph 4 provides a breakdown of corporate debt in New Zealand by sector. Utilities and the financial sector are clearly the largest issuers of debt.

Graph 4

Issuance of New Zealand corporate bonds by sector



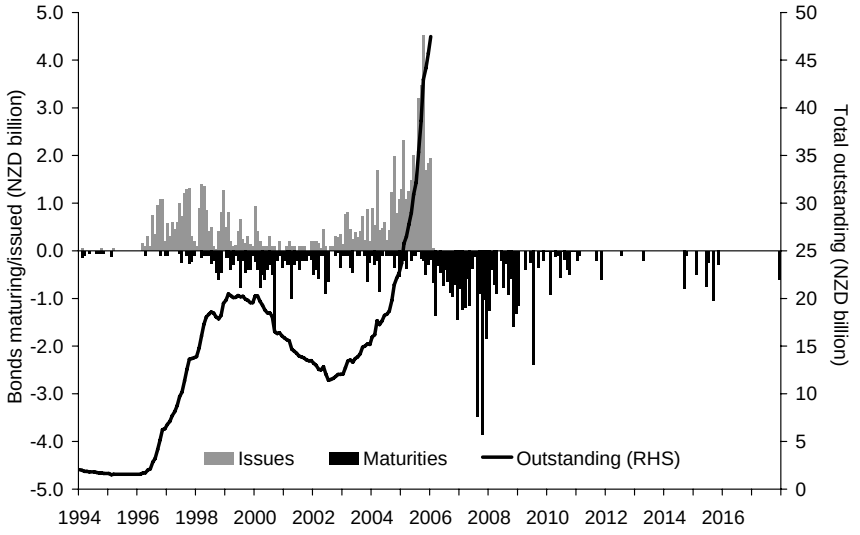
Source: Bloomberg.

Issuance of offshore NZD debt - the Eurokiwi/Uridashi market

Offshore NZD bond issuance - mainly Eurokiwi and Uridashi[4] bonds - has been especially strong over the past year 2005. These bonds usually have two- to three-year maturities, and are issued mainly by internationally known overseas institutions (such as the World Bank), and sold to overseas investors (particularly in Europe and Japan). At the same time, many New Zealand corporates and banks have found it more efficient to raise funds in the offshore capital markets (mainly in US dollars) - principally because offshore markets can provide greater volumes of longer-term funding than the domestic markets can - and swap these funds back into NZD. Furthermore, the high yields on New Zealand dollar denominated assets have made NZD investment very popular with global investors. The Eurokiwi and Uridashi issues have provided New Zealand issuers with a cost-effective mechanism for converting (ie swapping, and thus hedging) their overseas borrowings into NZD. In effect the New Zealand market has evolved to enable domestic and global participants to exploit their respective niches. At first glance this may appear to be to the detriment of the purely local, New Zealand market, but from a wider perspective, it has improved the overall access to capital.

Graph 5

NZD bond issuance in offshore markets
(Eurokiwi and Uridashi bonds)



Source: RBNZ.

A very large amount of Eurokiwi and Uridashi bonds is now outstanding, reaching more than NZD 45 billion at the end of 2005. This is more than double the previous peak of NZD 20 billion, reached in 1999 (Graph 5). Questions arise, therefore, about the nature of the adjustment that would take place if issuance were to abruptly dry up, and/or the large amount scheduled to mature between 2006 and 2009 were not at least in part rolled over into new issues.

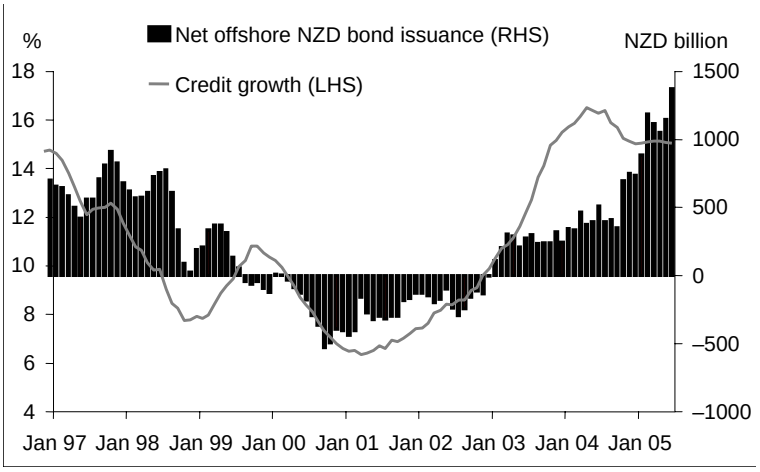
The last time a substantial amount of offshore NZD bonds matured (around 1999-2002), there was little disruption to the wider financial system. However, that was partly because the decreased supply of funds from offshore investors coincided with a slowing of demand for credit from New Zealand borrowers (Graph 6). While the maturing/redemption of offshore NZD bonds is likely to have made

[4] In this article, NZD denominated bonds issued offshore by non-New Zealand resident borrowers to non-resident investors are referred to as either "Eurokiwi" or "Uridashi" bonds. In general, European and global issues are Eurokiwis whereas bonds issued to retail investors in Japan are Uridashis. The non-resident borrowers will normally swap the NZD proceeds into the currency that is actually required. For a detailed explanation of this market and its rationale, see Drage, Munro & Sleeman (September 2005): "An update on Eurokiwi and Uridashi bonds", *RBNZ Bulletin*, 68 (3) pp 28-38, available from the RBNZ's website: http://www.rbnz.govt.nz/research/bulletin/2002_2006/2005sep68_3dragemunrosleeman.pdf.

some contribution to the substantial fall in the NZD exchange rate in late 2000/2001, other factors dominated. In particular domestic economic conditions, fears in the market that the RBNZ had over tightened monetary policy and a stubbornly high current account deficit all weighed on the currency.

Graph 6

Net offshore NZD bond issuance and credit growth in New Zealand



Note: Net offshore NZD bond issuance is a six-month moving average.

Source: RBNZ.

This previous experience provides some basis for thinking that adjustment to a drop-off in Eurokiwi and Uridashi issuance would again be coped with by the financial markets.

Conclusion

During the last decade, the New Zealand corporate bond market has gone down two separate paths, developing into a domestic market and an offshore market.

The domestic corporate debt market has not grown significantly for over a decade, but has met the needs of New Zealand domiciled borrowers and investors. The domestic market is dominated by domestic issuers, intermediaries and investors.

During the same period, the offshore market has experienced rapid growth. The participants in this market are predominantly foreign-based issuers, intermediaries and investors. The foreign issuers have used the highly developed New Zealand currency and interest-rate swap market to convert NZD funds back into USD funds - which, in turn, has allowed New Zealand-based issuers to efficiently hedge their foreign currency borrowings sourced from offshore capital markets back into NZD.

It will be interesting to see if the impediments preventing the two markets from integrating can be identified and removed.

The corporate bond market in the Philippines

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Introduction

"Expanding, but still nascent" would be a good way to characterise the corporate bond market in the Philippines. From the late 1980s until 1996, the market grew at a steady pace, but declined in the wake of the Asian financial crisis, and even more following a major political event in 2001. Although the downward trend was reversed in 2004, when issuance of short- and long-term commercial paper reached more than three times the level in 2003, the present bond market remains largely one for government debt.

Corporate bond trading lacks transparency, as it is done bilaterally and over-the-counter (OTC). However, as the Fixed Income Exchange, a major market infrastructure reform project, becomes fully operational before the end of 2005 improved transparency by way of corporate bond listings is expected to be achieved.

I. Sound macroeconomic backdrop

The growth potential of the Philippine corporate bond market is supported by improving macroeconomic fundamentals.

In the last quarter, despite the challenging political situation, the domestic economy continued to grow amid a relatively low core inflation rate. Domestic interest rates also continued to ease due to adequate liquidity in the system combined with some decline in the risk premium on public debt arising from improvements in fiscal conditions. To address emerging inflation risks, the Monetary Board recently tightened the monetary policy stance by way of hikes in the reserve requirement ratios and policy rates. The peso continues to strengthen against the US dollar on the back of sustained dollar remittances from overseas Filipino workers and higher portfolio capital flows. For its part, the national government has consolidated efforts to improve its fiscal position by way of additional revenue collections, administrative reform measures and the implementation of a revised and expanded value-added tax.

On the corporate side, the financial performance of the country's major companies during the first half of 2005 was generally strong. In the banking sector, key performance indicators show asset expansion, improvements in loan and asset quality, double-digit growth in deposits, profitable operations, adequate liquidity and sufficient capitalisation.

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II. Corporate debt issuance expanding, but still small

The levels of short- and long-term commercial paper issuance (which by legal definition includes corporate bonds) by Philippine companies has also exhibited an increasing trend recently. However, it still remains diminutive compared to the well-established government bond market (See Table 1).

Table 1

Outstanding corporate bonds in the Philippines

(PHP billions)

	2002	2003	2004	End-June 2005
Total outstanding STCP[1] and LTCP[2]	7.860	12.280	43.597	23.561
Registered with the SEC	5.200	10.800	11.960	5.000
Rated corporate issues	20.972	112.980	121.178	120.307
Government securities - domestic	1,046.731	1,673.285	1,941.420	1,975.743

Notes: [1]STCP, or short-term commercial paper, is debt with a maturity of 365 days or less. [2]LTCP, or long-term commercial paper, is debt with a maturity of more than 365 days. The term includes, but is not limited to, bonds and notes. Only includes securities issued by residents of the Philippines and excludes those issued by the national government and the central bank.

Sources: Bondware; SEC; BIS.

The difference in statistics in the first three categories in Table 1 above is due to the exemptions allowed by the Securities and Exchange Commission (SEC) on registration and ratings of securities. Furthermore, since trading at present is bilateral among private parties, there is no repository of reliable consolidated data for commercial paper issuance that includes issues sold to the public and those sold to selected private investors under a negotiated placement basis (which current statistics may not easily capture).

According to Bondware, 19 issuers had paper outstanding at end-June 2005. The Bondware data do not include the paper of four corporations that have been registered with SEC and the securities issued by MRT Funding Corporation worth PHP 98 billion which was rated by PhilRatings - the only domestic credit rating agency in the country.

The Bondware data, which showed aggregate issuance in the Philippines of USD 1,537 million at end-June 2005, also showed that 55% of corporate issuance was by the private sector; 31% by public corporations; and 13% by commercial banks. Total corporate bond issuance grew by 56% in 2003 and 255% in 2004.

The bulk of private sector issuance is by companies engaged in property development, with the remainder by the communications (telcos) and power generation sectors. Three commercial banks issued bonds worth a total of PHP 11,000 million. Only one corporation issued dollar-denominated bonds, while three foreign-owned corporations operating in the Philippines issued paper amounting to PHP 4,950 million. Overall, the single biggest issuer was the National Power Corporation, which issued bonds worth PHP 17,613 million, or roughly USD 316 million.

The yields on the issues ranged from a low of 6.8% to a high of 15.4%, depending on the tenor and issuer. Most of the bonds carried a fixed-rate coupon.

Given the Bondware data, the Philippine corporate bond market is apparently among the most underdeveloped in the region (Table 2). Going forward, we believe that the various capital market reform initiatives that are underway will ultimately create a more conducive environment to the development of a corporate bond market.

Table 2

Estimated value of outstanding bonds in the region

(USD millions)

	Amount	% of total
Australia	117,240	9.9
China	180,186	15.3
Hong Kong SAR	5,625	0.5
India	6,706	0.6
Indonesia	22,096	1.9
Japan	629,763	53.6
Korea	155,292	13.2
Malaysia	23,863	2.0
New Zealand	3,660	0.3
Philippines	**1,537**	**0.1**
Singapore	14,700	1.3
Thailand	14,812	1.3
Total	1,175,480	100.0

Source: Bondware.

III. Unique characteristics of the market

The Philippine domestic corporate bond market has a number of unique features.

a. Commercial paper includes corporate bonds

The existing Philippine laws define commercial paper to include corporate bonds as follows: “a means of evidence of indebtedness of any person with a maturity of more than three hundred sixty-five (365) days. The term shall include, but not be limited to, bonds and notes”.

The same registration procedures (and exemptions) apply to both types of commercial paper, which includes corporate bonds. In fact, both have a stiff stockholder approval requirement of a two thirds majority, which is founded on existing provisions of the Philippine Corporation Code.

b. Registration with the SEC is not required for all bond issues

The general rule is that all securities sold or distributed by any person or entity within the Philippines be duly registered with the SEC. However, the following categories are exempted from registration:

1. Any evidence of indebtedness *issued by* a bank, or non-bank financial institution with a quasi-banking licence.
2. Evidence of indebtedness *issued to* the BSP under its open market and/or rediscounting operations.
3. Evidence of indebtedness *issued to* banks, investment houses, financing companies, investment companies, insurance companies, pre-need companies and other primary institutional lenders *(a pre-need company is a SEC registered corporation which sells pre-need plans that are essentially contracts or agreements that provide for the performance of*

future services, payment of monetary considerations at the time of actual need or agreed maturity).

4. Bills of exchange arising from sale of the goods and services distributed and/or traded by banks or investment houses through an organised market.

5. Evidence of indebtedness, eg. short- or long-term commercial paper, meeting the following conditions:

   – issued to not more than 19 non-institutional lenders;

   – payable to a specific person;

   – neither negotiable or assignable and to be held to maturity; and

   – in an amount not exceeding PHP 50 million.

The sale of securities exempt from registration requires full disclosure to the investor that such securities have not been registered with the SEC. In addition, an issuer of commercial paper under any of the above exempt transactions must file a notice of exemption with the SEC.

c. Ratings are not required for all bond issues

A rating by an accredited credit rating agency[2] is required in the registration of commercial paper. However, exemption from the rating requirement is allowed when:

1. the issue amount is not more than 25% of the issuer's net worth; or

2. there is an irrevocable committed credit line with a bank covering 100% of the proposed issuance.

Commercial paper or bonds that are exempt from registration are also exempt from the rating requirement.

d. Manner of trading

Currently, trading in corporate bonds is OTC and bilateral or privately negotiated by buyers and sellers. The appointed bookrunner, lead manager and co-manager are under no obligation to make secondary markets for the securities. Furthermore, there is no available trading platform where bonds are listed, although the Fixed Income Exchange will list corporate bonds in 2006. Because trading is not transparent, we cannot ascertain trading volumes, turnover or trading depth.

e. No market conventions

There are no market conventions governing the issuance, pricing, distribution, trading and settlement of commercial paper and corporate bonds that give the details of agreed practices by industry players implementing minimum provisions of regulations imposed by the SEC and the BSP.

f. Registration of debt securities not fully computerised

The registration of commercial paper (including bonds) has yet to be computerised. Some securities are still issued in certificate form, although for recent issues are already in scripless format.

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[2] Credit rating agencies are required to have a minimum capital of PHP 10 million. Currently, there are two credit rating agencies recognised by the BSP. The Philippine Rating Services Corporation (PhilRatings) was recognised by the BSP as a domestic credit rating agency for bank supervisory purposes under BSP Circular no 404 dated 19 September 2003. Fitch Singapore PTE, Ltd, a subsidiary of Fitch Ratings, an international credit rating agency with representative office in the Philippines, was recognised by the BSP for bank supervisory purposes under BSP Circular no 473 dated 1 February 2005.

g. Market participants

Participants in a bond issue may include:

- underwriter;
- bookrunner;
- lead manager and co-manager(s);
- trustee;
- registrar and depository;
- paying agent;
- legal service provider; and
- credit rating agency.

A bank may perform a combination of the above functions.

h. Issuance costs

The issuance of debt securities is associated with high fixed costs relative to bank loans. In Table 3 below, we outline the estimated issuance costs for commercial paper and bonds.

Table 3

Estimated issuance costs

Stage/participant	Estimated fee
SEC registration	0.10% to 0.75% on maximum aggregate price of the securities offered
SEC legal fees	1% of registration fee
Documentary stamp tax	.005% of issue amount
Underwriter	25 bp to 40 bp
Credit rating fee	1/20th to 1/10th of 1% of the issue amount
Registry	Upfront fee for primary issuance or approx. 1/200 of 1% of issue size
	Maintenance fee - fixed charge on a periodic basis
	Transfer fee - fixed charge per transfer transaction
Lead manager(s)	Approx. 1% of the gross proceeds if inclusive of underwriting and selling responsibilities

Sources: SEC; various banks.

IV. The role of banks in the Philippine corporate bond market

The Philippine financial system is dominated by banks. At end-June 2005, the total resources of the banking system were PHP 4.4 trillion, or approximately 85% of 2004 GNP. The breakdown of banking resources is as follows: private domestic unibanks - 56%; private domestic commercial banks - 7%; government banks - 11%; foreign banks - 16%; and domestic and foreign thrifts - 10%.

In bond issuance, banks may participate as issuers, underwriters, lead managers, selling agents, registries, paying agents or settlement banks. Under Philippine laws, only universal banks/commercial banks and investment houses can act as underwriters. In 2004, banks held an aggregate investment portfolio in government, private and foreign securities of PHP 1.0 trillion.

Aside from fee-based income, banks earn profits from trading. In 2004, trading gains from private equities and commercial paper amounted to PHP 1.7 billion, versus trading gains from government securities of PHP 6.1 billion.

V. Issues and concerns

a. Legal

The stiff stockholder approval requirement (two thirds majority) for corporate bond financing stipulated by the Corporation Code, as well as the unfavourable taxation environment, have dampened corporate bond issuances in the Philippines. There is an urgent need for the passage of important legislation (eg. to update bankruptcy laws, amend the BSP Charter, create a credit bureau) that will spur the development of the domestic bond market.

b. Transparency

The following has contributed to a lack of transparency in the Philippine corporate bond market:

1. Exemptions from rating and listing requirements.
2. Absence of competitive pricing information using benchmark government debt prices.
3. No readily accessible monitoring and surveillance methods/tools for use by regulators.
4. Absence of data consolidation on completed transactions.
5. No access to reliable information on creditworthiness of issuers, except for sophisticated institutional investors.

c. No organised trading

The corporate bond market in the Philippines is bilateral and conducted OTC. Currently, there is no true picture of secondary market liquidity, and it is not clear whether there are repo or derivatives markets. The lack of pricing and distribution information has dampened the demand for corporate bonds.

d. High issuance costs

Because of high issuance costs, only top-tier corporations can issue bonds. Indeed, most Philippine companies, including small and medium-sized enterprises, would rather obtain their funds via bank loans than via the capital market.

e. Problems besetting institutional investors

Some institutional investors, such as pre-need companies, non-life insurance and mutual funds, (which, because of their liability structures, represent the bulk of demand for corporate issues) currently have a poor reputation in the market, which is hampering their growth. Dealing with the problems of institutional investors may require a stronger regulatory environment.

f. Outmoded bankruptcy laws

There are significant gaps between existing bankruptcy laws and investor protection. The current corporate rehabilitation law is obsolete, and does not ensure the ability of investors to immediately recover investments in the event of default.

g. Need for increased regulatory supervision

There is a need for increased supervision of corporate bond issuance. Publication of post-trade information and other market data is required not only to promote trading in the secondary market, but also to ensure proper market monitoring and surveillance.

VI. Capital market reforms and initiatives

A series of capital market reforms is underway in the Philippine capital market, aimed at addressing the financing mismatches of private enterprises. Specifically, the initiatives are intended to foster an environment in which there is a link between investors willing to place funds on one hand, and corporates in need of longer-term financing on the other.

a. Delivery of securities

The BSP issued regulations that require securities sold by a bank or non-bank to be delivered either to the purchaser or to his designated third-party custodian. The proper delivery of securities by dealer banks and non-banks assures the investor of a validated transfer of title and ownership to the securities purchased, thereby guaranteeing that said securities have not been the subject of multiple sales and undocumented repurchase agreements. The BSP issued regulations in July 2003 but the full implementation of the delivery requirement will be in the first quarter of 2006 following the resolution of issues with another government agency. Prior to the issuance of the regulations requiring mandatory delivery to the purchaser or to his designated custodian, manipulative practices by banks such as multiple sales and undocumented repurchase agreements were noted by the BSP.

b. Accreditation of third-party custodians

In connection with the requirement to deliver securities, the BSP subsequently issued regulations on the prequalification criteria for banks and non-bank financial institutions (NBFIs) under BSP supervision that will operate as securities custodians or registrars, and defined the functions and responsibilities of each. Accreditation standards were raised to include a minimum CAMELS ratio of "4", minimum capital adequacy ratio of 12% and adequate technological capability to offer securities custodianship and registry.

c. Market infrastructure

The BSP has strongly supported efforts of the Bankers Association of the Philippines and other industry associations to establish a Fixed Income Exchange (FIE) in the country. The FIE actually started operating an inter-dealer platform in March 2005, posting daily average trading volume of PHP 200-300 million[3] since it opened. It will expand to accommodate the public market before the end of 2006 when the connectivity with the Registry of Scripless Securities of the Bureau of the Treasury has been accomplished. The FIE will also run a board for corporate issues on which transparency in pre- and post-trade prices will be quoted.

[3] 1,906 million as of 4 January 2006 (Source: Philippine Dealing and Exchange Corp.).

Box 1

The Philippine Fixed Income Exchange

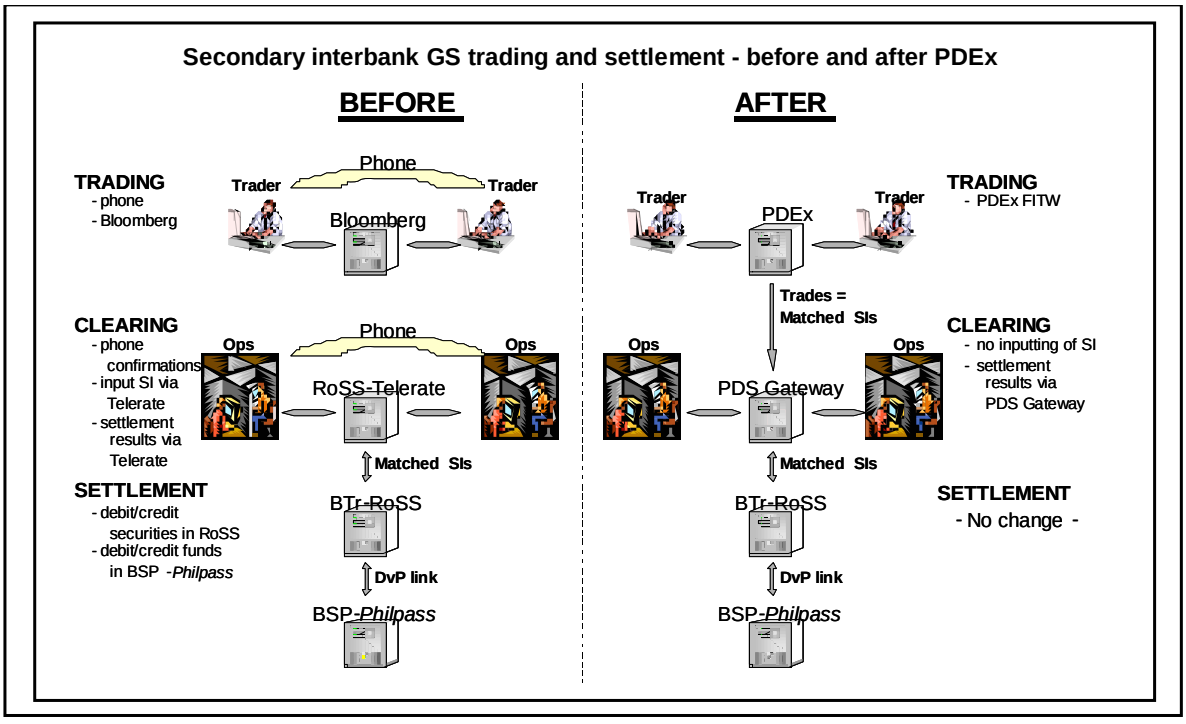
For purposes of infrastructure, the Philippine Dealing System (a holding corporation) owns three corporate entities that ensure direct and cohesive processing of securities transactions from trading to settlement and on to custody. These are 1) the Philippine Dealing and Exchange Corp. (PDEx) that acts as virtual trading floor for government and corporate issues; 2) the Philippine Securities Settlement Corporation (PSSC) that handles clearing and settlement of completed trades at the PDEx; and 3) the Philippine Depository and Trust Corp. (PDTC) that functions as the repository for securities on behalf of public investors for the purpose of providing proper disposition and accounting of securities holdings, as well as wider customer access to markets.

The FIE was established to accomplish three principal objectives. First, it will ensure that securities are properly delivered either to the purchaser or to the purchaser's appointed third-party custodian. Second, it will institutionalise third-party custodians - first introduced in 2004 to promote investor protection by separating the functions of dealing and custody of securities. Finally, the FIE will facilitate the migration from the current bilateral OTC trading to a formal trading arrangement that will achieve transparency and efficient price discovery.

Pre-FIE

In particular, the FIE will address the undesirable features of the current market, such as:

- market fragmentation, whereby pockets of investors exist;
- limited entry and exit for investors, who have usually been locked in to arrangements with their original securities dealers;
- inefficient price discovery, reflecting the fact that data and statistics have been readily available only to dealers and large institutional investors; and
- virtually no securities lending transactions.



Post-FIE

The creation of the FIE is expected to bring about the following improvements in the trading of securities:

- centralised market with exchange participation rights;
- segregation of dealing and brokerage (sales) activities;

- freedom for investors to choose their executing broker;
- transparent pricing;
- efficient price discovery; and
- securities lending capability.

Currently, the Fixed Income Exchange provides for participation rights for brokers, dealers or combination broker-dealers. There is also segregation of dealing and brokerage activities, which should result in a shift from dealers trading against the public to brokers executing on behalf of the public. Thanks to this measure, investors will have a wider and better choice of brokers to execute their transactions.

At this point, transparent pricing has been achieved for the interbank market, as quotations are available on a per security basis, and executions are at the best bid and offer. Going forward, we hope to achieve efficient price discovery for the common investor in the public market phase, as price and trading data will be made available on a real-time basis by subscription and on a delayed basis for free.

d. Legal and regulatory framework

The Documentary Stamp Tax Law. To partly address the taxation burden, R.A. no 9243 dated 17 February 2004 (*An Act Rationalising the Provisions of the Documentary Stamp Tax of the National Internal Revenue Code of 1997, as Amended, and for Other Purposes*) was passed exempting secondary trading of securities from documentary stamp taxes.

The SPAV Law. R.A. No. 9182 (*Special Purpose Asset Vehicle Law*), enacted in January 2003, was passed to address the non-performing asset (NPA) problem of Philippine banks by providing tax incentives for their sale.

The Securitisation Law. R.A. Act no 9267 (*Securitisation Act of 2004*) was promulgated to promote the development of the capital market by supporting securitisation; providing a legal framework for securitisation; and creating a favourable market for a range of asset-backed securities.

Other laws that will affect the corporate bond market in particular and the capital market in general are now in various stages of review by the Philippine Congress. These are:

1. **Credit Information System Act.** This bill provides for the creation of a central credit information bureau as a reliable source of information to allow lenders to accurately evaluate risks and select between creditworthy and poor-quality borrowers, thus improving discipline in the credit process.
2. **SPAV II (Special Purpose Asset Vehicle II).** This bill seeks to extend the original SPAV Law (above) for another two years to complete the NPA clean-up process.
3. **PERA, or Personal Equity Retirement Account.** This legislation seeks to establish a provident personal savings plan, which sponsors hope will be accepted as an essential and valuable instrument for long-term retirement savings. Specifically, PERAs are designed to achieve a comfortable and financially secure retirement through planned savings, sound investment and tax deferral.
4. **RICA, or Revised Investment Company Act**. This bill seeks to establish a comprehensive regulatory framework to enable investment companies to play a key role in capital formation, and promotes fiduciary principles in the management and administration of investment companies. In particular, it aims to protect the investing public and, in particular, prevent misuse of customer funds.
5. **Pre-Need Code**. This bill is intended to provide a sound legal and regulatory framework for the pre-need industry, for the protection of investors and pre-need plan holders.
6. **Corporate Recovery Act.** This bill is intended to modernise the bankruptcy code by providing a more expeditious way of rehabilitating ailing corporations with corporate recovery rules aligned with international best practice.

e. Implementation of International Financial Reporting Standards (IFRS)

The main goals of the BSP and SEC are to strengthen market discipline, encourage sound risk management practices and stimulate the domestic capital market. Both authorities recognise the importance of fairness, accuracy and transparency in financial statements to the achievement of all these objectives. Accordingly, the Philippines will require banks to adopt International Financial Reporting Standards for financial statements as of December 2005.

f. Credit rating agencies

BSP regulations cover the recognition of credit rating agencies for bank supervision purposes. This complements a more general recognition process enforced by the SEC. The reviews and rating changes issued by these credit rating agencies are used to fine-tune the opinions of lenders, investors and regulators about institutions and/or instruments. The two rating agencies operating in the Philippines are PhilRatings, the country's only home-grown agency, and Fitch Singapore PTE, Ltd, a subsidiary of Fitch Ratings.

g. Financial Sector Forum

The BSP has launched an inter-agency cooperative body called the Financial Sector Forum, comprising of the BSP, the SEC, the Insurance Commission and the Philippine Deposit Insurance Corporation. Its primary aim is to coordinate the efforts of its member agencies in the areas of supervision and regulatory policy; reporting, information exchange and dissemination; and consumer protection and education. The creation of the Forum is expected to aid in the development of the capital market by ensuring that initiatives are conceptualised and implemented using a common framework.

h. Capital market reform agenda: a joint effort

The Capital Market Development Council (CMDC), a joint public-private body, bringing together representatives of industry associations and regulators, is drafting the road map for capital market development in the Philippines, with technical assistance from various international agencies.

Conclusion

Although we have embarked on an ambitious programme of capital market reform, we are aware that much remains to be done to develop our domestic corporate bond market. We are mindful of the lessons of the Asian financial crisis, and recognise, in particular, that a well-functioning bond market reduces the vulnerability of the corporate sector and contributes to the overall financial health of the country.

Developing Singapore's corporate bond market

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Monetary Authority of Singapore

1. Introduction

Prior to 1998, Singapore's bond market was small and relatively undeveloped because the government ran budget surpluses and had no need to raise funds in the capital markets. Singapore Government Securities (SGSs) were issued mainly to meet banks' statutory liquidity requirements. Indeed, most SGSs were held by banks and insurance companies, and not actively traded.

The absence of a deep local bond market meant that private borrowers relied mainly on bank borrowings and equity to meet their funding needs. The Asian financial crisis of 1997-98 demonstrated the need for a broader range of funding sources, which led the Singapore government to embark on a major programme to develop a local bond market. This paper provides the history of this developmental effort, and discusses the issues and challenges facing the Singapore bond market going forward.

2. Initiatives to develop Singapore's bond market

The Monetary Authority of Singapore (MAS) designed a corporate bond market development programme with three principal objectives:

1. Building a liquid government benchmark yield curve to act as a price discovery mechanism for issuers and investors;
2. Fostering the growth of an active secondary market, both for cash transactions and derivatives, to provide efficient risk management; and
3. Encouraging issuers and investors, both domestic and international, to participate in the Singapore bond market.

Naturally, the three objectives were mutually reinforcing. For example, active trading would make the yield curve more robust and draw more participants into the market, which would, in turn, raise the level of trading activity.

Building a liquid government benchmark yield curve

Several measures were taken to develop the benchmark yield curve, including the following:

– **Increasing the size of the SGS market.** Between 1998 and 2004, the government bonds and bills outstanding increased by 152% (Graph 1). We also extended the yield curve from seven years to 15 years. We stopped at 15 years, because we judged that that was the extent of market demand; more recently, however, demand for longer-term bonds has grown. In 2003, the Land Transport Authority issued a 20-year bond, thereby extending the yield curve further.

[1] Executive Director, Monetary Management, Monetary Authority of Singapore (MAS).

– **Instituting a regular issuance calendar with two- and five-year auctions twice a year, and a seven-, ten- and 15-year auction once a year.** The calendar is announced in advance.

– **Augmenting key issues**. This means re-opening some issues that were designated as benchmarks and buying back others. Market feedback suggested that a minimum issue size of S$2bn might be needed for active trading. Thus, issues that were smaller were bought back to concentrate liquidity in the larger issues.

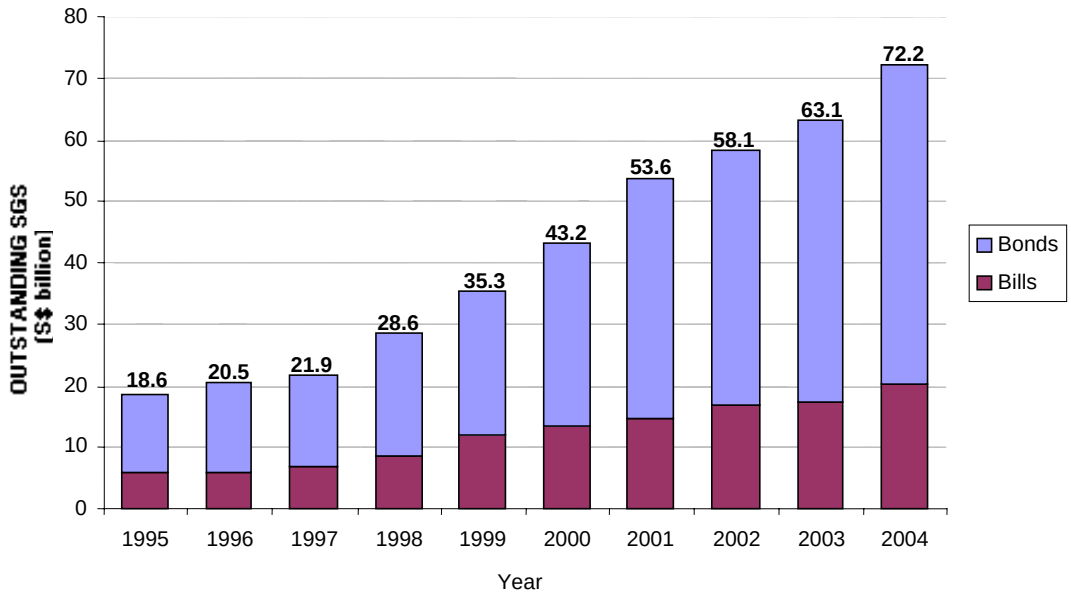
– **Implementation of Electronic Applications for Primary Dealers.** We introduced the SGS Electronic Applications Facility (eApps) in January 2002. This internet-based platform has provided a convenient interface for Primary Dealers (PDs) to submit their bids, and has shortened processing times, allowing auction results to be announced within one hour after the application deadline.

– In July this year, we launched the SGS Electronic Trading Platform, which publishes transactions on a real-time basis, thereby further increasing the transparency of the yield curve.

Graph 1

Singapore's government bond market

(SGD billions)



Source: MAS.

Fostering the growth of an active secondary market

A number of measures have been taken to encourage SGS trading (see Graph 2):

– **Market-making obligation.** The 11 SGS PDs are required to make two-way prices to each other for a standard lot size of SGD 5 million, and must agree on the appropriate bid-ask spread for each bond tenure.

– **SGS repo facility.** To encourage market-making, a SGS repo facility has been introduced so that PDs can borrow securities to cover their short positions. This arrangement allows PDs to hold less inventory.

– **Delivery verus payment.** SGS transactions are settled real-time on a delivery-versus-payment (DvP) basis on the MAS Electronic Payments System (MEPS). MEPS is an interbank real time gross settlement system, whereby the cash proceeds from the buyer and the securities from the seller are earmarked before the exchange is simultaneously carried out. This helps to reduce counterparty risk.

– **Code of market conduct.** A code of best practice and trading conventions for the SGS market have been established, with input from market participants. Several sets of guidelines have been published, including "Rules and Market Practices of the SGS Market" and the "SGS Repo Code of Best Practice".

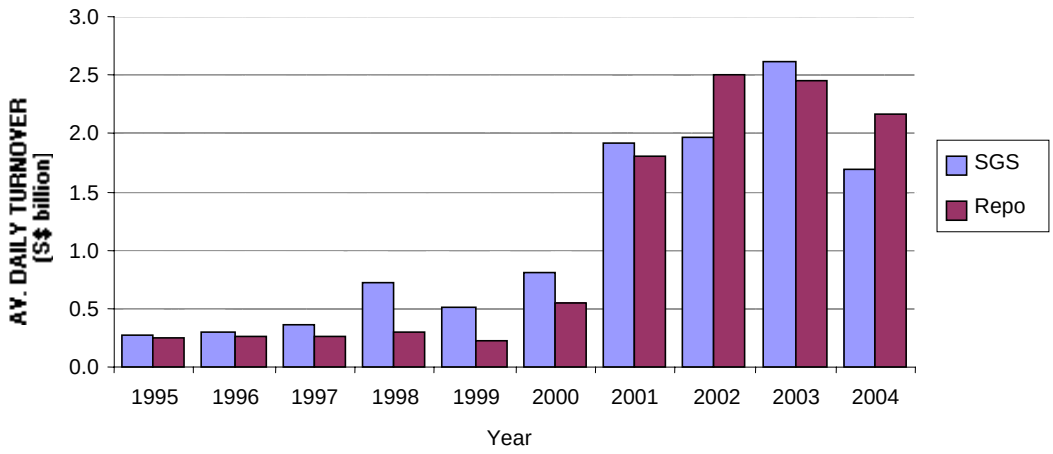
– **Repo Agreement.** To develop the repo market, MAS signed the PSA/ISMA Global Master Repo Agreement (GMRA) with the SGS PDs in 2000, and has encouraged its adoption between market players. This has established a legal framework that meets international standards, which should pave the way for more foreign participation in the market.

– **Derivatives trading.** Derivatives also play an important role in improving the liquidity of the secondary market. A short-term interest-rate futures contract and a five-year SGS futures contract were launched in 2001, but neither was well-traded. Market participants prefer the interest-rate swap (IRS) market, whose daily trading volume has now exceeded that of the SGS market. In 2004, the average daily volume of IRSs traded in the interbank market reached SGD 3.7 billion, triple the volume in 2001.

Graph 2

Average daily turnover volume: SGSs and Repos

(SGD billions)



Source: MAS.

Encouraging issuers and investors, both domestic and international

Before 1998, the main obstacle to foreign participation in the Singapore debt market was the MAS's policy of discouraging the internationalisation of the Singapore dollar. This policy was encapsulated in MAS Notice 621 (later renamed Notice 757), which restricted offshore borrowings denominated in Singapore dollars to SGD 5 million, and prohibited Singapore-based financial institutions from trading Singapore dollar derivatives, including IRSs and options, with non-residents.

To attract foreign investors and issuers, this policy has been progressively liberalised. No longer do we have any restriction on Singapore-based financial institutions trading with non-financial institutions. Restrictions have also been lifted on the trading of IRSs, asset swaps, cross-currency swaps and options. Two restrictions remain, however. First, lending to non-resident financial institutions is still capped at SGD 5 million per institution. Second, non-resident financial institutions can raise any

amount of Singapore dollars through the debt issuance, provided that the proceeds are swapped into foreign currency before the funds repatriated. Feedback from market participants indicates that neither restriction impedes genuine capital market activity.

Prospectus requirements for issuing bonds in Singapore have also been streamlined. An issuer can now make multiple offers of separate tranches of debentures under a debenture issuance programme, provided that it registers with the MAS a base prospectus that is applicable for the entire programme. For each subsequent offer of debentures under the programme, the issuer will only need to lodge with the MAS a brief pricing statement containing information specific to that particular offer. The validity of a base prospectus has been extended from six months from the date of initial registration to 24 months. To ensure that material and current information is disclosed for subsequent offers of debentures made under the programme, issuers will be allowed to update or include new information in the base prospectus without triggering the refund provisions when there is no subsisting offer.

There are also new provisions to cater for offers of continuously issued structured notes. Specifically, we regard each note as part of a debenture issuance programme if the general characteristics of the notes offered are mostly the same (offer-specific details can differ). In this case, the base prospectus relating to the offer is valid for 24 months. We recognise, however, that there are practical difficulties for the issuer in lodging a pricing statement before such an offer. Therefore, we have exempted financial institutions offering continuously issued structured notes from the requirement to lodge and register a pricing statement with the MAS. The proviso to this exemption is that the issuing financial institution must give the investor a transaction note setting out the offer details prior to the purchase or subscription and a confirmation receipt thereafter. These new streamlined disclosure requirements ensure that proper risk and product disclosures are made available to investors.

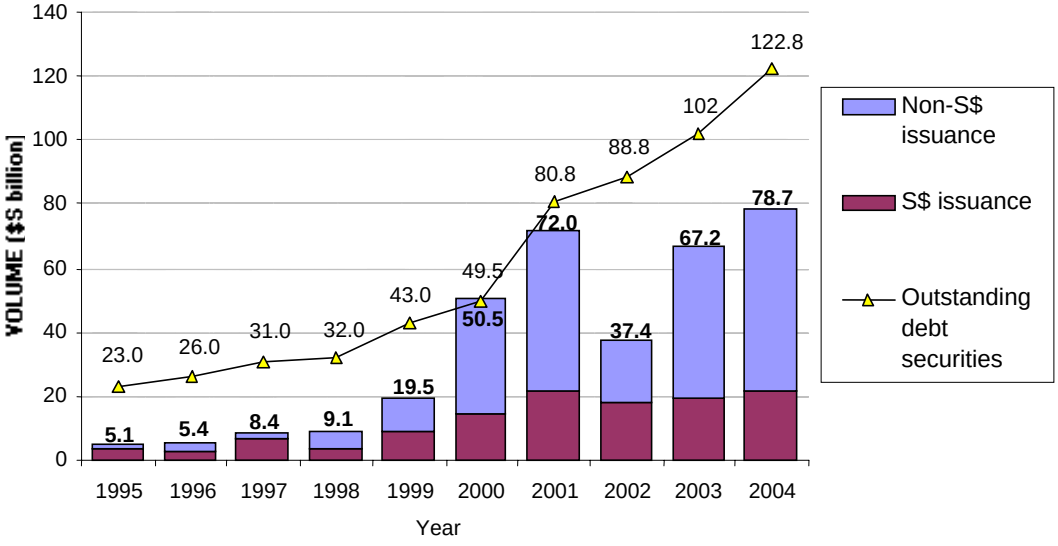
Since the International Finance Corporation's (IFC) bond issue in 1998, which provided the market with a strong signalling effect, we have seen more than 160 foreign entities issuing SGD bonds. These include financial institutions, such as Bayerische Hypovereinsbank AG; supra-nationals, such as the Asian Development Bank; agencies such as Freddie Mac; and multinational corporations, such as GE Capital.

Besides foreign issuers, we have also encouraged local institutions, particularly quasi-government entities, to issue bonds (Graph 3 and 4). This has led to issues by Jurong Town Corporation, the Housing and Development Board, the Land Transport Authority, Majilis Ugama Islama Singapura and the Inland Revenue Authority of Singapore.

Graph 3

Corporate bond market:
New issuance and outstanding debt

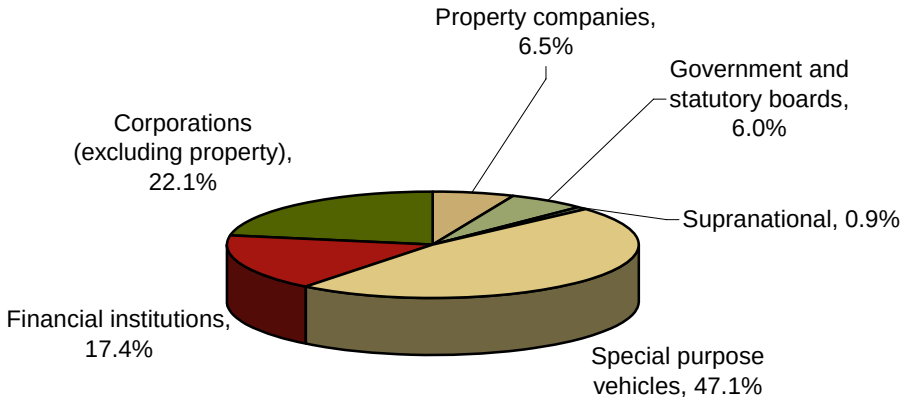
(SGD billions)



Source: MAS Annual Debt Market Survey.

Graph 4

Profile of SGD corporate bond issuers, 2004

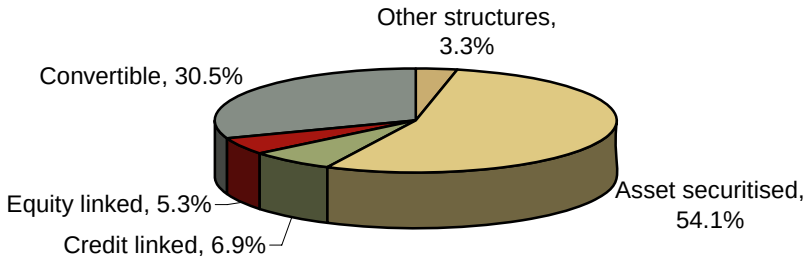


Source: MAS Annual Debt Market Survey

In recent years, the market for structured debt products has grown substantially. Structured debt made up almost 60% of total SGD debt issuances in 2004, and included a wide range of products, such as asset-securitised debt, credit-linked debt, equity-linked debt, convertible debt, as well as other lesser-known structures, such as total return notes and range accrual notes (see Graph 5). The diversity of instruments signals increased sophistication and risk appetite on the part of the local investor base, a necessary ingredient in developing the breadth of our debt market.

Graph 5

Profile of SGD structured debt issues, 2004



Source: MAS Annual Debt Market Survey.

3. Issues and challenges

The three objectives outlined in Section 2 have been achieved, and are responsible for the progress of Singapore's bond market thus far. The next phase of bond market development will have to focus on expanding the range of participants and instruments.

Small and medium-sized enterprises

While the corporate bond market has rapidly gained favour as a source of finance for Singapore's largest corporations, it has remained relatively inaccessible to small and medium-sized enterprises (SMEs). Individual SME borrowings are typically small, making the cost of issuing a bond uneconomical; therefore, most SMEs still rely on banks for their funding needs. One way to overcome this problem is to aggregate SME loans into asset-backed securities. In Singapore, the government has done this through the launch of an SME ACCESS Loan Scheme, which has created a well-diversified portfolio of SME credits from participating banks. The scheme is expected to generate some SGD 300 million worth of SME loans for securitisation. (It is worth noting that securitisation of SME loans in Japan and Korea has proved very successful.) The securitisation of SME loans is not without problems, though. A key challenge will be to convince banks to give up potentially profitable loans for pooling in the scheme. There is also the issue of "adverse selection", whereby banks keep the choicest loans for themselves and pass on the rest for securitisation.

Foreign participation

Foreign investors and issuers can add to the breadth and depth of an emerging market. However, even in freely tradable markets, attracting foreign participation can be challenging. Some of the most commonly cited deterrents to foreign participation are small size; a non-level playing field between locals and foreigners; lack of price/information transparency; and the absence of a securities borrowing facility. These issues have to be addressed.

The corporate bond market in Thailand

Pongpen Ruengvirayudh and Sakkapop Panyanukul[1]
Bank of Thailand

Brief introduction to Thailand's bond market

Prior to the Asian economic crisis in 1997, the function of financial intermediation in Thailand fell almost entirely to commercial banks. Funds were mobilised mainly through bank deposits, while direct financing through the domestic bond market, both public and corporate, was relatively small-scale and undeveloped.

Indeed, nine consecutive years of fiscal surplus between 1988 and 1996 provided no incentive for the government to make regular and substantial issues of government bonds. The limited supply of government bonds inhibited the development of a risk-free benchmark, against which private issuers could price their bonds, which, in turn, impeded the development of the corporate bond market.

The 1997 crisis was exacerbated by an imbalance in the structure and operations of Thai financial markets. With limited financing alternatives to bank loans, the business sector in Thailand faced a severe liquidity crunch as the banking sector curtailed its lending operations amid high non-performing loan ratios and recapitalisation needs - which, in turn, intensified the economic slowdown, as the normal and main channel of funding could not function.

The rapid growth of emerging local bond markets over the last decade has been a natural outcome of financial crises. In the case of Thailand, efforts to develop the domestic bond market were given an extra boost by the Thai authorities, who not only had to fiscalise the cost of post-crisis financial restructuring, but also saw the necessity of reducing the economy's reliance on bank intermediation and external financing.

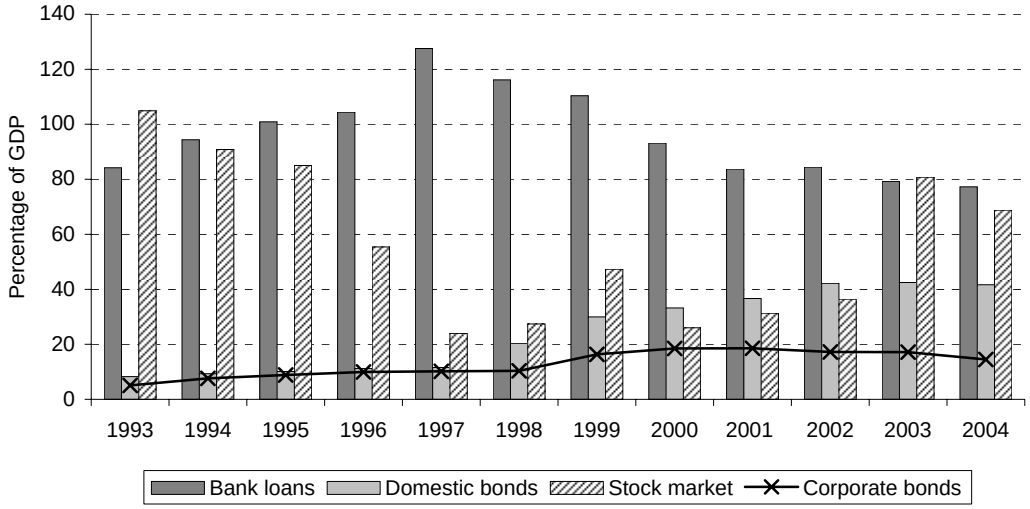
Size and composition

As a result, the bond market has grown rapidly since 1997. Graph 1 shows the ratios of bank loans, total domestic bonds outstanding, stock market capitalisation and corporate bonds outstanding to GDP. The ratio of domestic bonds outstanding to GDP has been on an increasing trend, although corporate issuance remains relatively small. The ratio of the value of the Thai bond market to GDP is currently about 42%, whereas that of the value of corporate bonds outstanding to GDP is only about 14%, which is still low compared to the equivalent ratios in industrial countries.

[1] Mrs Pongpen Ruengvirayudh is the Senior Director of the Financial Markets and Reserve Management Department and Mr Sakkapop Panyanukul is a Senior Analyst in the Financial Markets and Reserve Management Department, Bank of Thailand (BoT). The opinions expressed herein are those of the authors and should not be attributed to the BoT.

Graph 1

Size of Thailand's financial sectors[2]

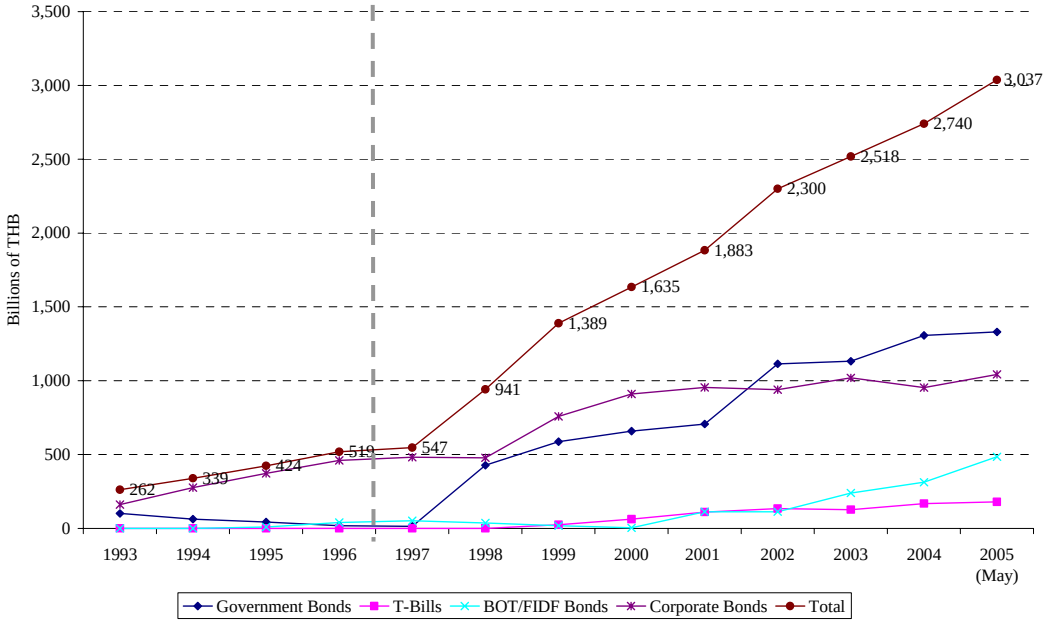


Note: "Domestic bonds" here includes both government and corporate bonds.

Source: Thai Bond Market Association (ThaiBMA).

Graph 2

Values of domestic bonds outstanding



Source: ThaiBMA.

As with other Asian economies, the Thai bond market is currently dominated by public debt securities, which account for about two thirds of total bonds outstanding. Graph 2 also shows that although the

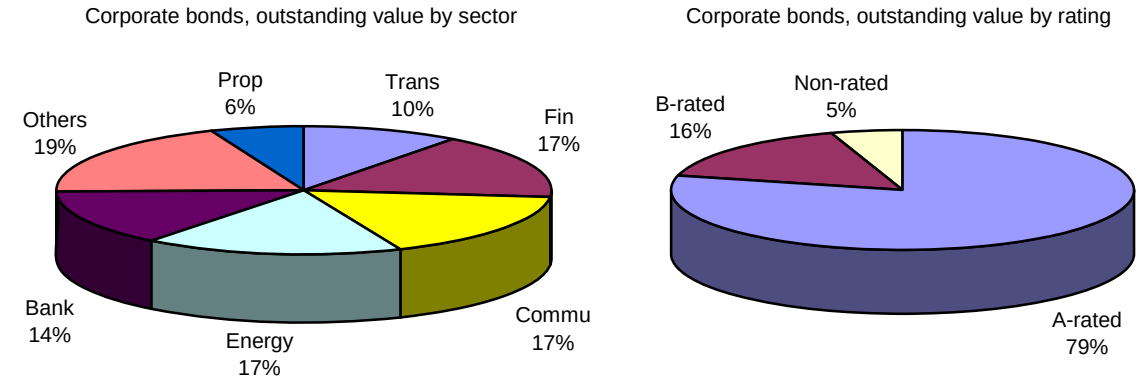
[2] In this paper, local currency corporate bonds are defined as local currency denominated bonds with maturity of one year or more, and not issued by the sovereign or central bank. Corporate bonds may be issued by financial institutions or non-financial companies.

corporate bond market has grown since the crisis, there is still much room for expansion. In terms of the absolute amount outstanding, corporate bonds have been on an increasing trend. However, the share of corporate bonds in total bonds has declined since 2001.

With regard to the supply of corporate bonds, the limited number of large, quality corporate issuers with financial standings strong enough to meet the rigorous public disclosure and external rating agency requirements results in a higher all-in cost of funding through debt issuance relative to bank lending for most firms. This problem was compounded by the fact that banks, which derive a large part of their profits from lending, were reluctant to underwrite bond issues. As a result, only a limited number of issuers (mainly companies with strong credit profiles) were able to obtain funding from this market.

Graph 3

Profile of corporate bond issuers (as of 30 June 2005)



Source: ThaiBMA.

Credit enhancement and structured products will help lower-rated corporates gain access to the bond market, which will be a key step in promoting a growing and diverse set of issuers.

Activity in the secondary bond market

Both government and corporate bonds are traded over the counter (OTC), with institutional investors - including commercial banks, mutual funds, provident funds, the Government Pension Fund, the Social Security Office and insurance companies - as the main investors. Since the establishment of the Bond Electronic Exchange (BEX) in 2004, some corporate bond issues have been listed on the newly established exchange market, which has provided access to retail and individual investors. Going forward, the authorities are promoting the establishment of an electronic trading platform (ETP) for all types of bonds to facilitate trade and reduce transaction costs. The ETP is expected to be up and running by early 2006. (More details on the ETP can be found in Box 1)

Box 1

Electronic trading system by BEX

The Bond Electronic Exchange (BEX), a subsidiary of the Stock Exchange of Thailand (SET), is in the process of developing an electronic trading platform (ETP) for institutional and large-scale investors (ie the wholesale market), called Fixed Income and Related Securities Trading System, or "Firsts". As the country's central ETP, "Firsts" will be an efficient centre for bond trading, since it will offer a trading system, settlement and clearing services, transparent disclosure and efficient communication channels. Most importantly, "Firsts" will provide market participants with real-time trading information, enabling them to make more efficient investment decisions, as well as trade and negotiate bonds more conveniently, quickly and transparently.

"Firsts" specifications

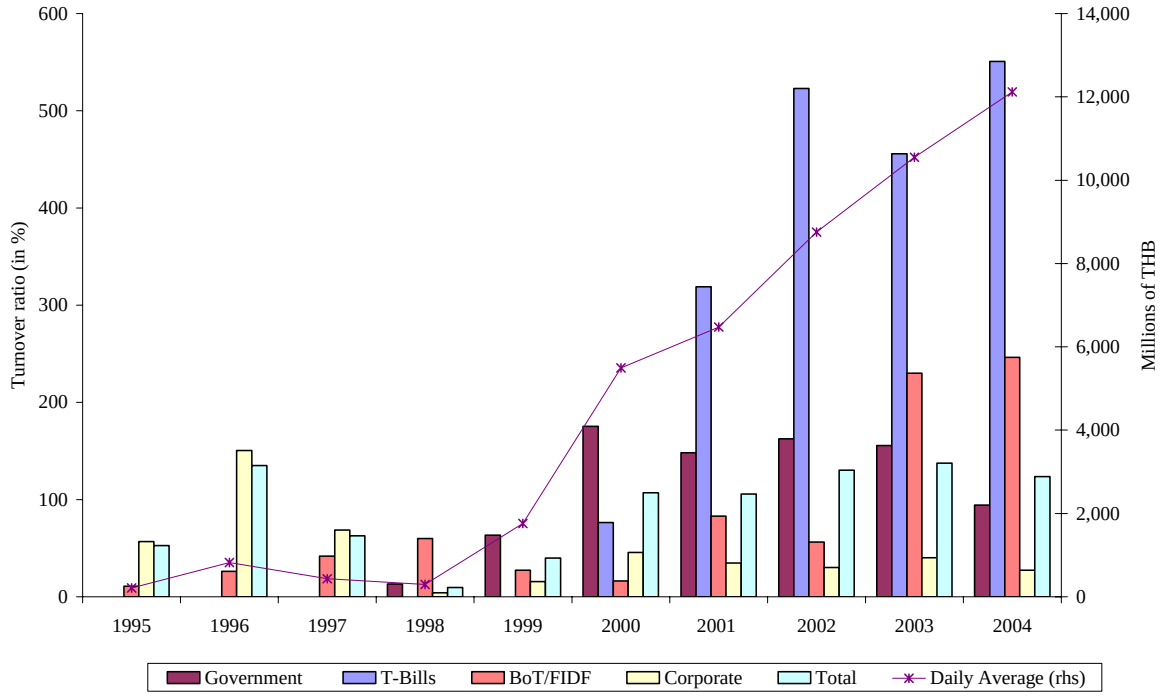
	Dealer to dealer (D2D)	**Dealer to client (D2C)**
Firsts user	Dealers	Dealers, institutional investors
Bond type	All bonds	All bonds
Trading method	Yield-to-maturity dealing	Yield-to-maturity dealing
Order type	Indicative and firm quotation	Requests for quotes (RFQ)
Trading session	10.00 am–12.30 pm and 2.30 pm–4.30 pm	
Clearing and settlement	Gross settlement Clearing and settlement through TSD is optional	

For retail investors, BEX has also been operating an automatic order matching bond trading system since 26 November 2004 on which both government and corporate bonds are listed. The system aims to provide retail investors with an additional investment channel by providing better access to information and ease of transaction. Prior to BEX, bonds were traded OTC, which was principally for institutional investors. Because of information and transparency issues as well as small transaction sizes, retail investors were effectively excluded from the OTC market. TSD stands for Thailand Securities Depository.

Even though the average daily trading volume in the secondary market has been increasing since 2000, the average daily trading volumes of government bonds and corporate bonds have not increased much in the past few years. This is mainly because the activity in the secondary market has become more focused on short-term, liquid instruments, such as Treasury bills and central bank bonds (the majority of which have maturities of less than a year). Turnover ratios of the major instrument types, along with the average daily trading volume in the secondary market, are shown in Graph 4.

Graph 4

Turnover ratios by instrument and average daily trading volume



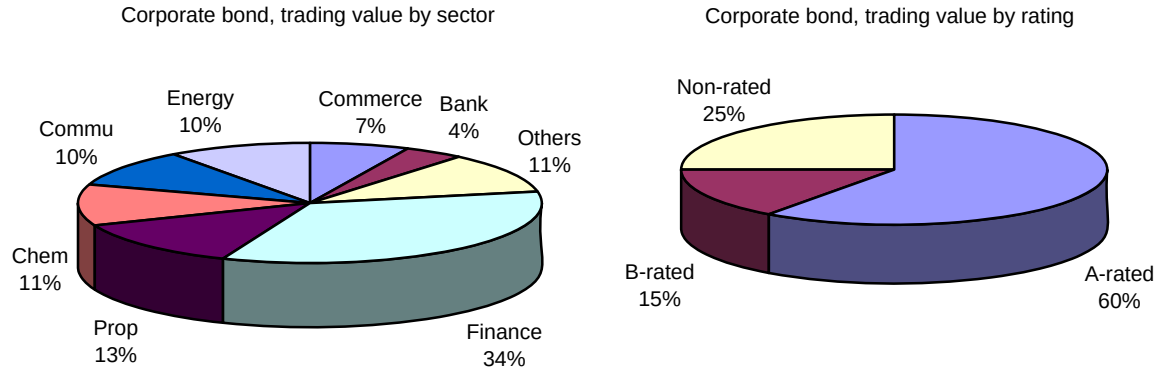
Note: Turnover ratio is the annual outright trading volume divided by the year-end amount outstanding of each corresponding instrument.

Source: ThaiBMA.

For corporate bonds, trading volume in the secondary market is concentrated at the high end of the credit spectrum, with around 60% of transactions taking place in A-rated corporate bonds.

Graph 5

Profile of corporate bond trading (as of 30 June 2005)



Note: Commu stands for community.

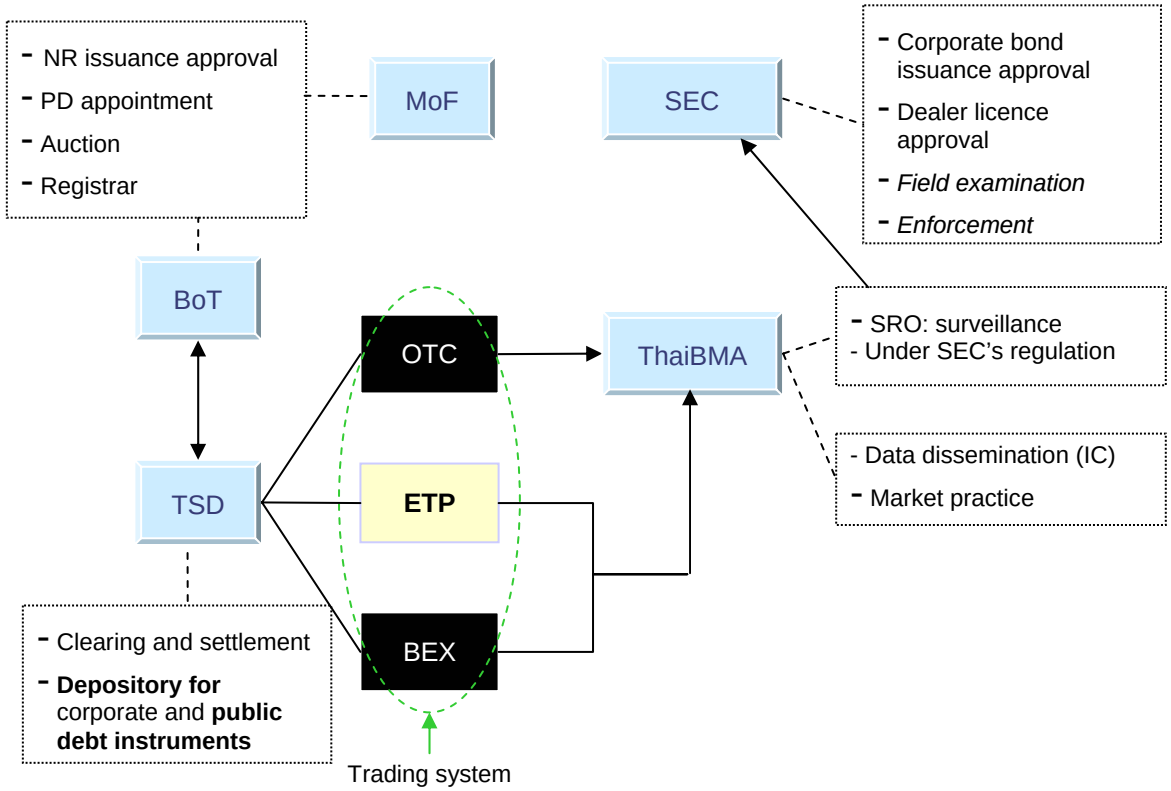
Source: ThaiBMA.

Institutional arrangements in Thailand's bond market

Various parties are involved in the development of the corporate bond market, including: the Ministry of Finance (the issuer of government securities); the Bank of Thailand, or BoT (the fiscal agent for and registrar of government securities); the Securities and Exchange Commission (the main regulator and developer of the capital market); the Stock Exchange of Thailand (the system operator of BEX and the centralised ETP); the Thai Bond Market Association, or ThaiBMA[3] (a self-regulatory organisation and information centre); and the Thailand Securities Depository (TSD, the clearing and settlement agent). Graph 6 summarises the structure of the Thai bond market.

Graph 6

Institutional arrangements in Thailand's bond market



Abbreviations

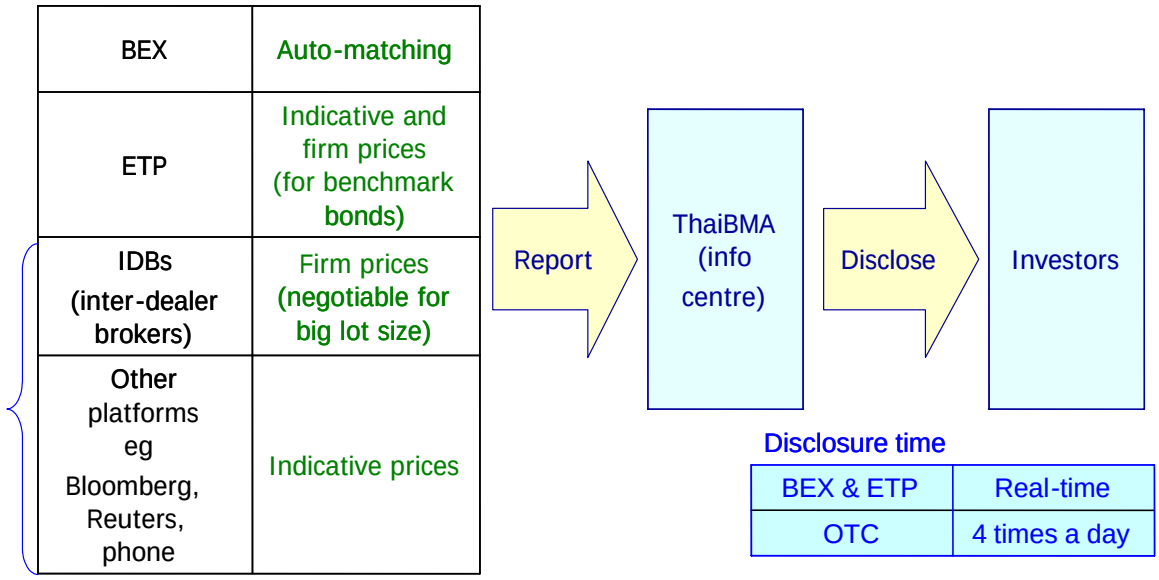
MoF	Ministry of Finance
BoT	Bank of Thailand
TSD	Thailand Securities Depository
OTC	over-the-counter
NR	non-resident
ETP	electronic trading platform
BEX	Bond Electronic Exchange
ThaiBMA	Thai Bond Market Association
SEC	Securities and Exchange Commission
SRO	self-regulatory organisation
PD	primary dealer

[3] Formerly known as the Thai Bond Dealing Centre (TBDC), the Thai Bond Market Association (ThaiBMA) is a securities business-related association established under the Securities and Exchange Commission Act B.E. 2535. Its main purposes are to be a self-regulatory organisation (SRO) for a fair and efficient operation of the bond market and to be an information centre for the bond market. It also plays functional roles in market development, such as drawing up market conventions and standards and being a bond pricing agency for the industry. In addition, the ThaiBMA provides a forum where industry professionals can discuss and respond to current issues and play a role in shaping the future of the Thai bond market.

Graph 6 shows that although market participants in the bond market have a number of alternative trading channels, ranging from the traditional OTC market to the centralised electronic trading systems, ie ETP (wholesale and dealing) and BEX (retail and auto-matching), all trading information will be reported to and centralised at the ThaiBMA for public dissemination (see Graph 7). Under current regulations, bond dealers have to report their transactions in the OTC market to the ThaiBMA, which discloses the executed prices to its subscribers four times a day. All transactions are disclosed to the public at the end of each trading day. There will be further improvement to information transparency and disclosure in the OTC market, with the more timely submission and disclosure of post-trade information from January 2006 onwards. However, market participants in the two electronic trading systems already have access to real-time pre- and post-trade price information.

Graph 7

Reporting and disclosure system for bond trading transactions



Market infrastructure

Following the enactment of the Securities and Exchange Act of 1992, which streamlined the criteria for the issuance of corporate bonds, the corporate sector gradually began to issue debt. The authorities' efforts to develop local bond markets, combined with the corporate sector's efforts to diversify away from refinancing and foreign exchange risks and reduce its reliance on bank borrowing, have also contributed to an expansion of the local corporate bond market in Thailand, as has happened elsewhere in the world.

A sound market infrastructure is a prerequisite for a properly functioning bond market: it supports active participation and trading, contributing to continuous price discovery and market liquidity, and gives markets more flexibility in an ever changing environment. The efforts of the BoT in this area have been focused on measures to: 1) enhance the role of market-makers; 2) improve the clearing and settlement system; 3) develop risk and liquidity management tools; 4) create electronic trading platforms; and 5) establish a risk-free government bond benchmark for the pricing of bonds.

Market-makers

The Thai secondary bond market has functioned largely as an OTC market between dealers and institutional investors, with only the limited participation of retail investors. Due to relatively illiquid conditions and imperfect market information, market participants have had to rely principally on the market-making mechanism to stimulate trading activities. Consequently, market-makers have not been able to perform their functions efficiently because of the lack of supporting tools to make continuous bid-ask quotes with commitment to those quotes. As a result, there have been no two-way quotations committed to by dealers, including primary dealers.[4] Therefore, the authorities are looking at ways to enhance primary dealers' efficiency in performing their role as market-makers in the secondary market as well as make available those facilitating tools, so that the market-makers can fulfil their duties.

Clearing and settlement systems

The clearing and settlement process for corporate bonds in Thailand is costly, due to the ongoing use of scrip, as well as continued fragmentation of this function in the industry. The cost of clearing and settling a dematerialised security is now a fraction of the cost of clearing and settling scrip. Moreover, the greater the lack of standardisation arising from divergent clearing and settlement procedures, the greater the cost to the entire market.

Currently, the settlement of public debt securities is operated by the BoT, while corporate bonds are cleared and settled at the Thailand Securities Depository. The BoT is working closely with the TSD to centralise the settlement of bonds by setting up a Central Securities Depository (CSD) and a central clearing and settlement system at the TSD. The TSD plans to have this operation up and running sometime in early 2006.

The BoT is currently studying a conceptual model for the CSD, as well as its possible linkage to other CSDs. The issues under consideration include: 1) the infrastructure of the linkage; 2) risk management; 3) the settlement process; 4) the finality of the transaction in each country;[5] 4) the impact of exchange rates; and 5) other related issues.

Risk and liquidity management tools

The lack of hedging instruments also contributes to the low liquidity of corporate bonds in Thailand. Investing in corporate bonds exposes investors to market, credit and liquidity risk - and repo and derivatives markets that would allow investors to hedge such risks, and dealers to manage their positions and inventories more effectively, are relatively underdeveloped in Thailand.

Currently, the derivatives market in Thailand consists of products traded mostly in the OTC market. An exchange-traded derivatives market does not yet exist. However, the Derivatives Act of 2004 has legally endorsed the establishment of a financial futures exchange, and interest rate futures contracts are expected to begin trading in 2006 - thus providing an important hedging tool for bond market participants.

Trading platforms

The issue of appropriate trading systems for our corporate bonds has been a constant topic of discussion since bonds began trading in the Thai capital market. Current trading systems have included traditional trading via telephone, screen-based trading, inter-dealer brokering and the soon to be launched central electronic trading platform. Details of the planned central electronic trading platform are shown in Box 1 above.

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[4] The BoT first appointed primary dealers on 5 June 2000. Currently, there are nine primary dealers. The Ministry of Finance and the BoT are now reviewing the current primary dealer system to include more tangible privileges as well as obligations in both the primary and secondary markets. The particular issue being considered is whether the exclusive right in primary market auctions should be given to primary dealers.

[5] "Settlement finality" means "the discharge of an obligation by a transfer of funds and transfer of securities that have become irrevocable and unconditional".

Benchmark government bonds

The ThaiBMA has developed and disseminated a daily government yield curve that extends out 16 years, using government bonds across all 27 issues (maturities ranging from one to 17 years, with an average duration of about 5.13 years). Realising the importance of a risk-free benchmark against which private issuers can price their bonds, the Ministry of Finance is planning to issue seven-year and 10-year benchmark government bonds on a monthly basis, starting from January 2006. Having a reliable risk-free benchmark (based on sizeable issuance) is a crucial step in improving liquidity and building market infrastructure for both the bond and derivatives markets.

Policy implications

Since the crisis, the Thai authorities have put a great deal of effort into developing the domestic bond market. In 1998, the Domestic Bond Market Development Steering Committee, chaired by the Director General of the Ministry of Finance, was established to promote the development of the domestic bond market. In January 2005, this committee was reorganised to enhance its functional efficiency, and is currently chaired by the Finance Minister and comprises high-level representatives from both the public and private sectors. The aim of this committee is to find ways to enhance funding sources and investment alternatives in the market, which would also lead to better distribution among bank financing, equity financing through the stock market, and debt financing through the domestic bond market.

The BoT has been entrusted with the responsibility of further developing the secondary market. To meet this challenge, the BoT, in collaboration with other authorities and market participants, has mapped out a multi-year strategy and a plan of action for secondary bond market development. The plan of action focuses on: 1) improving efficiency and reducing transaction costs in the bond market; 2) increasing market players' ability to lend and borrow securities; 3) enhancing participants' ability to hedge risks; 4) streamlining and enhancing the function of primary dealers in their role as market-makers; and 5) broadening the investor base by increasing market access for both domestic and foreign players.

Despite the rapid growth in the government securities market during the past decade, the Thai corporate bond market has been expanding at a much slower pace. However, we strongly believe that an effective government bond market lays the foundation for the development of the corporate bond market. Experience in developed markets generally shows that the following components are helpful in the development of an effective government bond market: 1) regular issuance; 2) a well functioning primary dealer system; and 3) a vibrant hedging market and active liquidity enhancement facilities.

Developing a well functioning bond market is not an easy task. Much progress has been made in Thailand, but many major problems still need to be tackled. The development of corporate bond markets should be viewed as an incremental process that takes place over a number of years. By their very nature, and given their social and political implications, the above reforms are likely to be implemented gradually, rather than all at once. Our planned endeavours will be time-consuming, but worthwhile - because they will lay the foundation for the strong and diversified financial markets that will underpin sustained economic recovery and prosperity for all.