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**BOND MARKETS OF SINGAPORE: THE PAST, THE PRESENT
AND THE FUTURE**

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DEBT MARKETS IN SINGAPORE AND THEIR POLICY IMPLICATIONS

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I. Introduction

The development of the debt markets in Singapore has been one of the key components of the Monetary Authority of Singapore's (MAS) attempts to enhance Singapore's role as an international financial center. This has led to a series of bold reforms, including the liberalization of the Singapore dollar, to turn Singapore into a hub for the issuing, arranging and trading of debt securities. The debt markets in Singapore are made up of three major segments: Singapore government securities (SGS) market, the Asian dollar bond (ADB) market, and the Singapore dollar corporate bond (SDCB) market. Despite the fact that the government has run budget surpluses since the 1980s and maintains huge reserves, the SGS market remains the biggest segment of the debt markets in Singapore. The ADB market, which involves bonds denominated in non-Singapore dollars, is the second largest even though it has been promoted by the MAS since 1971 to transform Singapore as a financial center. While still remains the smallest segment, the SDCB market has experienced phenomenal growth since 1989 when the MAS began to actively promote it.

Although these markets form the three important pillars of the debt markets in Singapore, the MAS has, in recent years, been focusing on developing the SGS and SDCB markets. One reason for this new focus is that the incentives given to the ADB market are already attractive. The ADB has all along been exempted from withholding

tax, and banks have been enjoying a concessionary tax rate of 10 percent on their income derived from arranging of such bonds. The second reason is that the SGS and SDCB markets are probably more important to Singapore as their absence (or underdevelopment) may imply that Singapore cannot redeem the so-called “original sin”. A country suffers from original sin if it cannot borrow domestic currency or borrow long term. The Asian financial crisis has shown vividly that financial fragility is inevitable if domestic investments were financed by foreign currency loans (currency mismatch) or by short-term loans (maturity mismatch). Hence, this paper will concentrate on the SGS and SDCB markets, while the ADM market will only be brought up to provide a complete picture of the debt markets in Singapore. .

This paper is organized as follows: Section II presents the growth and structure of debt markets in Singapore. Section III provides the rationale for developing the SGS and SDCB markets. Section IV examines the factors that have hindered the development of these two markets. Section V discusses the measures taken by the MAS to promote these markets. Section VI addresses the challenges ahead for the Singapore debt markets. Finally, Section VII gives the conclusions and lessons from the Singapore experience.

II. Growth and Structure of the Debt Markets in Singapore

The SGS, ADB and SDCB markets have all exhibited strong growth in recent years (**Table 1**). The SGS still dominates the debt markets in Singapore, with the total gross issuance in 2000 amounting to some S\$54.0 billion (S\$41.9 billion for treasury bills and S\$12.1 billion for bonds). This brought the total SGS outstanding at end of 2000 to S\$43.2 billion. The ADB market is the second largest segment of the debt markets in

Singapore. Since its inception in 1971, the ADB market has grown rapidly, although the level of activity fluctuates from year to year in response to demand for funds by foreign issuers. In 2000, total issuance of the ADB was S\$36.1 billion, which, despite three decades of existence, still constituted less than 1 percent of the Eurobond market. The fledgling SDCB market remains the smallest although it is showing rapid growth in recent years. In 2000, the total issuance of the SDCB was only S\$14.4 billion, which still represents a mere one-quarter of the SGS issuance.

INSERT TABLE 1

(a) Structure of the SGS Market

The MAS, acting as fiscal agent for the government, issues three-month treasury bills weekly, while one-year Treasury bills, as well as two, five, seven, and ten year bonds are issued regularly. In an effort to boost liquidity in the SGS market, the MAS has announced in May 2000 that all benchmark issues will be at least S\$2 –2.5 billion in size. In the 5-year bond auction in 2001, a new benchmark size of S\$3.4 billion was established in response to market demand.¹

The SGS auctions are held under a Dutch auction process, although bidders at bond auctions may also tender non-competitive bids.² All bids must be placed through the eleven primary dealers. In order to ensure that the SGS auctions are fully taken up, each primary dealer is required to subscribe $1/n$ of the auction amount, where n is the number of primary dealers. The primary dealers must also provide liquidity to the SGS and SGS repurchase (repo) market by quoting continuous two-way prices in SGS under any trading conditions.

The secondary market comprises 38 dealers spread across banks, merchant banks and stockbroking firms. These can deal with retail customers in amounts ranging from S\$1,000 for bonds to S\$10,000 for treasury bills. Dealers trade with each other in standard lot-size of S\$5 million for on-the-run issues, and S\$2 million for off-the-run issues. Trading is usually transacted by telephone and cleared electronically on a Delivery-vs-Payment basis (DVP) over the MAS Electronic Payment System (MEPS) and the SGS Book-Entry Clearing System operated by the MAS. This is the real-time gross settlement (RTGS) system introduced in July 1998 and replaces the former end-day net settlement system.

The repo market has become increasingly liberalized, as the MAS recognizes that an active development of this market would enable investors and primary dealers to finance their bond inventories and hedge their Singapore dollar debt positions. This would, in turn, facilitate a more active trading of the SGS and improve the liquidity in the cash bond market. In May 2000, offshore banks may engage in repo without size restriction, lifting the limit of S\$20 million set in November 1999.³ In November 2000, the MAS also took an unprecedented step by carrying out its own SGS repo program. This was aimed at re-channeling liquidity from off-the-run issues into larger and more liquid benchmark bonds. In December 2000, the MAS has allowed non-residents to borrow in the repo market without size restriction, provided that the funds are to be used for investment in onshore assets. As a result, the repo turnover has grown rapidly since the middle of 1990s (See **Figure 1**). The growth of the repo transaction has, in turn, facilitated a more active trading of the SGS and improve the liquidity in the cash bond market. As shown in Figure 1, turnover of SGS has also been trending upwards in recent

years, except for 1999 which saw the defensive behavior on the part of market participants prior to the run-up to Y2K.

INSERT FIGURE 1

The major holders of the SGS are banks and finance companies. Banks hold SGS to meet their minimum liquid asset (MLA) requirement which currently stands at 18 percent of their total liability base.⁴ Of this 18 percent, 10 percentage points must be in outright holdings of SGS while up to 4 percentage points may be in the form of trade bills. From May 2000 onwards, term reverse repo transactions (or loans taken by banks using SGS as collateral) are eligible for up to 5 percentage points of the MLA requirement. In the past, only overnight repo trades are eligible for MLA requirement. At the end of 2000, the total MLA requirement was S\$ 35.3 billion, compared with S\$43.2 billion of SGS outstanding.⁵ But the actual liquid assets held by the banks in 2000 was S\$39.5 billion, which was some S\$4.2 billion in excess of the MLA requirement. Out of these S\$39.5 billion of liquid assets, banks held S\$33.7 billion in SGS. It can thus be seen that the bulk (about 78 percent) of the SGS are being "locked up" by banks.

It is frequently stated that the government-run pension fund, Central Provident Fund (CPF), is the single largest holder of government bonds. However, the bonds that they hold are of a special kind. These are specially-issued, non-tradable, long-term government bonds which are held by the CPF until maturity. In 2000, the CPF held S\$60.6 billion of such bonds, which constitute one and a half times of the total SGS outstanding. Most of the proceeds from such bonds were probably channeled to the

Government of Singapore Investment Corporation (GSIC) for investment in foreign assets.

(b) Structure of the ADB Market

The first ADB was launched by the DBS Bank in December 1971 when it floated a US\$10 million 10-year issue. Since then, many other banks and corporations (both domestic and international) as well as national governments and multilateral organizations have tapped this source of funds. The type of issuers varies from year to year. Most of the ADB issues were denominated in US dollars. 2000 was probably a typical year when some 93 percent of the ADB market were denominated in US dollars, with the remaining 7 percent denominated in Hong Kong dollar, euro and Japanese yen. The year 1998 was rather unusual as 45 of the 83 issues in the ADB market were denominated in Indonesian Rupiah.

(c) Structure of the SDCB Market

The corporate debt market has been markedly transformed in recent years, as can be seen in **Figure 2**. In 1998, property companies were the dominant issuer, accounting for about 70 percent of total issuance in the SDCB market. By 2000, the issuer mix has become more balanced, with property companies accounting for only 28 percent of the debt issuance. Other major issuers were statutory boards (10 percent) and foreign entities (18 percent). The strong presence of statutory boards as well as foreign entities in the Singapore debt market scene is not by accident. Rather, it is the result of a two-pronged strategy by the MAS to promote its corporate bond market.

INSERT FIGURE 2

The first prong in the development plan has been the encouragement given to statutory boards and Government-linked corporations (GLCs) to tap bond markets rather than opt for direct bank lending. Learning from the experience of the crisis-hit countries in East Asia, where their bank balance sheets were under extreme stress because of the concentration on bank lending, the MAS must have been keen to diversify these risks. The development of the corporate bond market therefore allows companies to diversify funding sources and reduce their dependence on bank lending. As well as increasing the size of the corporate bond market, the issues by statutory boards have extended the yield curve, with the Jurong Town Corporation launching a S\$200 million 12-year issue in 2000. Singapore Telecommunications, a GLC, also responded to the call by the government by launching a S\$ 1 billion 5-year issue in February 2001, the largest issuance in the SDCB market to date. In addition to straight fixed and floating rate straight debt, local corporations also issued mortgaged-backed securities (MBS) and other innovative synthetic MBS.

The second prong of the approach has been the opening up of the Singapore dollar bond market to foreign issuers. This is accomplished through MAS Notice 757, introduced in August 1998 and amended in November 1999. The main points of this legislation are as follows:

- (1) if the Singapore dollar proceeds from bond issuance are not used for economic activity in Singapore, they must be swapped out into a foreign currency;
- (2) the swap leg of the above transaction is except from cash and MLA requirements and from tax;

- (3) there is no minimum size requirement (the minimum issue size was S\$100 million when Notice 757 was first issued);
- (4) there is no restriction on the credit rating of issuers; and
- (5) if funds raised are for use in Singapore, issues for non-bank non-residents do not require prior MAS approval.

Despite the condition requiring foreign issuers to swap their Singapore dollar proceeds into a foreign currency, many of them have come to the Singapore market. From the introduction of the MAS Notice 757 in August 1998 up till the first quarter of 2001, some S\$6.6 billion of Singapore dollar debt has been issued by foreign entities. (A complete list of the foreign entities issuing Singapore dollar bonds is provided in **Appendix I**). The issue size ranged from S\$30 million to S\$400 million. Tenors of bonds were generally extended, in some cases to as long as 10 years.

Many supra-nationals and multinationals had been quick to make their debut in Singapore which could help to raise the visibility of their organizations. Foreign issuers might also be attracted to the Singapore market because of the low borrowing cost and large pool of Singapore dollar funds. However, combining a Singapore dollar loan combined with a currency swap would result in a “synthetic” foreign currency loan for foreign issuers. Given that the swap market involving the Singapore dollar is illiquid and has wide bid-ask spreads, it is unclear whether the foreign issuers still come out ahead than if they had issued foreign currency bonds directly in the Eurodollar bond market. If not, many potential foreign issuers might just wait until Singapore is able to develop a more liquid swap market.

III. Rationale for Developing the SGS and SDCB Markets

The over-dependence on bank lending and short-term capital inflows to finance long-term investments have often been cited as one of the main reasons for the Asian financial crisis in 1997. If a well-developed bond market had existed in the region, it was argued that the crisis might have been avoided as Asian governments and companies would have been able to obtain a more stable source of long-term domestic currency funding rather than short-term foreign loans. However, the rationale for developing the debt market in the East Asian region after the crisis does not seem to be particularly relevant to Singapore for various reasons. First, the government and many of the large companies in Singapore do not need to borrow as they are generally cash-rich. Second, Singapore's sophisticated bank lending network and equity capital market will probably more than compensate for the absence of bond markets and continue to be the fund-raising avenues of choice. Third, the banking sector is so well-capitalized and well-regulated that banks' over-exposure in foreign currencies is unlikely to happen in Singapore. Hence, the need to develop the debt markets in Singapore is probably governed by other imperatives.

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

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

IV. Factors Hindering Bond Market Development in Singapore

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

On the supply side, the small domestic market of Singapore severely limits the amount of funds that its government and local corporations would need. In addition, it is relative easy for statutory boards and corporations in Singapore to obtain bank credit; issuing bonds is apparently more troublesome and time-consuming. The fact that the debt market in Singapore is largely a captive market has exacerbated the problem. This is because a high proportion of the SGS are held by commercial banks and finance companies to meet the MLA requirement (See **Table 2**). SGS are also held – usually to maturity – by insurance companies. As a result of this captive market, there is little trading of these securities in the secondary market.

INSERT TABLE 2

On the demand side, most of the Singapore investors have strong preference for equities and properties over bonds. Because of the low interest rate environment in

Singapore, the yields on bonds, particularly government bonds, are low and unattractive (**Figure 3** shows the yields of the various SGS in recent years). On top of that, Singapore investors have to pay tax on interest income whereas they do not have to pay tax on capital gains obtained from investing in equities and properties. Last, but not least, bond trading in the OTC market lacks liquidity and transparency. As a result, bond investors tend to buy and hold their bonds rather than trade actively.

INSERT FIGURE 3

V. Measures to Further Develop the Markets

1997 could be considered a watershed year in the development of Singapore as a financial center. In that year, the MAS announced a new approach to financial-sector management in an effort to boost Singapore's status as a financial center.⁶ Arising from the sea-change in its policy, the MAS had embarked on a comprehensive effort to develop the debt markets in Singapore. The MAS took a gradualist rather than a "big bang" approach. Thus far, its efforts have been focussed on further developing the SGS and SDCB markets, as well as introducing various tax-reduction measures to promote these markets.

(a) The MAS program and SGS market growth

1998 saw not only more SGS were being issued, but also the launch of the first 10-year government bond issue to extend the yield curve (beyond the then longest-dated 7 year issue). In that year, the MAS also provided a SGS issuance calendar which shows the type of bond issue that would be auctioned each month. All these measures were

aimed at developing the benchmark yield curve and providing a pricing platform for corporate bond issuance.

The year 1999 would be remembered for the liberalization of the Singapore dollar interest rate derivatives to enable market participants to manage their interest rate risks arising from investing in the SGS market. Following the introduction of the Singapore dollar 3-month interest rate futures contract on the Singapore Exchange, the MAS lifted all restrictions on Singapore dollar OTC interest rate derivatives such as interest rate swaps, forward rate agreements, interest rate options and swap options. However, banks are required to submit monthly reports on details of interest rate derivative transactions exceeding S\$ 5 million with counter-parties outside Singapore.

In 2000, the MAS took three concrete steps to improve the efficiency and price transparency in the SGS market. The first step was the introduction of a SGS repo facility for primary dealers. This facility offers a fixed pool of benchmark SGS bonds which primary dealers can access (via daily repo auction) to help cover short positions in benchmark issues arising from their market making activities. The second step was the removal of a regulatory constraint by allowing SGS held by a bank under term reverse repo transactions to be eligible for up to 5 percentage points of the MLA requirement. The third step was the implementation of a SGS issuance program aimed at building large and liquid benchmark bonds.

The year 2001 witnessed the launch of a 5-year Singapore government bond futures contract by the Singapore Exchange and the issue of a 15-year SGS bond. These two developments should help boost trading of the SGS in the secondary market and facilitate the issuance of longer term SDCB.

(b) The MAS program and the SDCB market

In the past few years, the MAS has been actively promoting the SDCB market in parallel with its various initiatives to further develop the SGS market. Introduced in August 1998, Notice 757 has been the cornerstone of the MAS's target for the SDCB market. It has provided opportunities for foreign entities to issue SDCB to meet their funding needs provided that the proceeds are swapped into a foreign currency. This is clearly a departure from the MAS's long-standing policy against the internationalization of the Singapore dollar. To add further impetus to the development of the SDCB market, the MAS has been actively encouraging the statutory boards and government-linked corporations to tap the SDCB market rather than relying on bank loans for their funding needs.

When MAS Notice 757 was first introduced in 1998, it allowed for only foreign entities with "good credit standing" to issue SDCB. In November 1999, the Notice was amended to allow the following to tap the SDCB market:

- (1) all rated foreign corporations;
- (2) all sovereigns, rated or unrated;
- (3) unrated foreign corporations, provided the investor base is restricted to sophisticated investors.⁷

However, they all still have to swap the Singapore dollar proceeds into a foreign currency.

As a liquid swap market is a key ingredient for a vibrant bond market, the MAS had announced in 1999 that banks were no longer required to set aside reserves for Singapore dollar received from swaps with non-banks of more than one year in maturity.

This was relaxed further in March 2001 when banks no longer need to set aside reserves even for Singapore dollar swap transactions that are of less than one year maturity with non-bank financial institutions and corporations. In the same year, the MAS decided to further open up the market by permitting offshore banks and securities dealers to engage in Singapore dollar swap activities.

(c) Taxation

In order to promote the SGS and SDCB markets, various tax-reduction measures have been introduced.⁸ Different kinds of tax incentives have been granted to the various participants of the Singapore debt markets: financial institutions, non-financial institutions, Singapore residents and non-residents (**Table 3** presents the current treatment for the different debt instruments in Singapore).

In the February 1998 budget, the MAS introduced the Qualifying Debt Securities (QDS) which are debt securities substantially arranged by financial institutions in Singapore. Fee income earned by financial institutions which arrange QDS will be exempted from tax. In addition, interest income earned by financial institutions and corporations from holding the QDS will enjoy a concessionary tax of 10 percent. Trading income earned by financial institutions will also be taxed at 10 percent. Furthermore, interest income earned by non-residents which do not have permanent establishments in Singapore will be exempted from withholding tax.⁹ The 1999 budget extended tax exemption from withholding tax to non-residents who have permanent establishments in Singapore, provided that non-residents do not use funds from Singapore operations to purchase the QDS.

INSERT TABLE 3

In the 1999 budget, the MAS introduced the Approved Bond Intermediary (ABI) scheme. ABI status will be given to financial institutions which have debt origination and capabilities in Singapore. All debt securities lead managed by financial institutions with ABI status (or ABIs) would be treated as QDS. The scheme provides ABIs with greater certainty when dealing with clients in terms of eligibility for tax exemption. Before the introduction of the ABI scheme, each transaction was assessed on a case-by-case basis. By March 2000, 19 financial institutions had been granted the ABI status.

In recognition of the importance of the swap markets for the bond market growth, the 2000 budget allowed gains made from swaps trading to be taxed at the concessionary rate of 10 percent.

VI. Challenges Ahead

The Singapore bond market in Singapore has come a long way, especially since 1998 when the MAS began to actively promote it. As a result, the SGS market has become more liquid. The risk-free benchmark yield curve has also been lengthened to 15- year maturity. Efforts to deepen the SGS market and to lengthen the benchmark yield curve should be relentlessly pursued to give a fillip to the SDCB market. The corporate bond market in Singapore has also made rapid headway and is currently the third largest in East Asia, after Japan and South Korea. While the results are encouraging thus far, Singapore still has some way to go to become one of the centers for the Asian bond market. Going forward, Singapore faces two main challenges: (1) attracting more issuers to tap the SDCB and ADB markets, and (2) enlarging the investor base in the debt

markets. These two challenges are however inextricably linked as enlarging the investor base will entice more issuers and vice versa.

(a) Attracting More Issuers

Because of the smallness of its domestic market, Singapore must develop as the center not only for Singapore dollar bonds, but also for the issuing, arranging and trading of regional currency bonds. Developing a strong SDCB market is the crucial first step that should set the ball rolling. Despite the substantial progress made, the SDCB market has a long way to go as it is still small and inactive.

To further develop the SDCB market, Singapore has to encourage issuers not only from Singapore but also from all over the world. It should emulate Switzerland where foreign entities are active issuers of Swiss franc bonds. Like Switzerland, Singapore has the necessary ingredients for a successful SDCB market. As Switzerland is a safe haven within Europe, Singapore with its political stability, sound economic fundamentals and stable currency, can be regarded as a safe haven in East Asia. Favorable market factors, such as the relatively low and stable interest rates, coupled with active government encouragement, should provide an environment conducive to growing this nascent market.

However, unlike Switzerland, Singapore requires foreign issuers of the SDCB to swap the Singapore dollar proceeds into a foreign currency. The rationale of this restriction is to ensure that foreign issuers would not be able to use the Singapore dollar proceeds they have obtained to speculate against the Singapore dollar. However, with the swap, the Singapore dollar bonds issued by foreign entities would actually end up as foreign currency bonds with a “lock-in” foreign currency interest rate. This might not be

what they really wanted in the first place. At any rate, without a liquid and deep Singapore dollar swap market, foreign issuers of SDCB would have to incur a high cost of swapping the Singapore dollar proceeds. Hence, it is unclear whether the foreign issuers of SDCB still come out ahead than if they had issued foreign currency bonds directly in the ADB market. A further relaxation of the swap policy might help attract more international issuers to Singapore who are seeking the benefit of diversifying their liabilities. Perhaps, the MAS might consider a partial relaxation of this ruling for foreign issuers which could fulfill the following conditions: (1) have good reputation and strong credit rating, and (2) tap the SDCB market for diversification of their liabilities.

While promoting the SDCB market, Singapore should not overlook the ADB market. Singapore has tremendous potential for developing into a center for the issuing and trading of regional currency bonds. Over the next decade or so, the regional governments will need to borrow huge sums of money to finance fiscal deficits to finance their ravaged economies as well as to restructure and re-capitalize their hard-hit financial institutions. Private companies in the region will demand massive amount of funds to build their productive capacities which have been neglected during the Asian financial crisis. Having learnt the hard way from the crisis, these regional borrowers will increasingly turn to bonds, especially those denominated in their own currencies, to match their domestic long-term commitments.

Currently, very few regional borrowers come to the ADB market to issue regional currency bonds even though many have come to Singapore to issue Indonesian rupiah bonds as recently as 1998. This is to be expected as the region has not yet fully recovered from the Asian financial crisis. Moreover, a few countries around Singapore

(notably Malaysia, Thailand and Indonesia) have imposed varying degree of foreign exchange and capital account restrictions in the aftermath of the Asian financial crisis. This has made it difficult to launch regional currency bonds in Singapore at this stage. However, Singapore should be well-placed to play a regional role once the regional economies begin to pick up and the restrictions imposed on capital outflows are lifted.

(2) Enlarging Investor Base

The MAS has realized that a deep and broad investor base is critical to the success of the debt markets in Singapore. To cultivate a wider investor base, it has been encouraging not only the foreign investors but also the local investors, to be interested in the Singapore bond market.

One of the ways to bring in foreign investors is to attract foreign fund managers to Singapore. To be sure, the MAS has been very successful in expanding the fund management industry in Singapore. Towards the end of 1999, fixed income investments by fund managers in Singapore amounted to S\$26.9 billion, up from S\$17.6 billion from a year ago. This upward trend in fixed income investments by funds managers in Singapore is likely to continue for various reasons. First, SGIC and MAS have announced plans to outpace a substantial amount of their funds to asset managers in Singapore.¹⁰ Second, from December 2000 onwards, non-residents have been allowed to borrow Singapore dollars to buy SGS and SDCB. Third, non-residents have been granted tax exemption on interest income earned from QDS.

To promote the Singapore bond market to the local investors, the government has taken two significant moves which will increase the pool of funds available for bond investments. First, the CPF scheme has been liberalized in 2000 which is expected to

add some S\$35 billion to the investible pool of funds in Singapore. Second, the Supplementary Retirement Scheme (SRS) has been introduced in 2000. The SRS is also expected to enlarge the pool of investible funds since it provides tax incentives for individuals to save over and above their CPF contributions.

The demand for Singapore dollar bond can only grow stronger as the maturing economy encourages local investors to re-examine the merit of fixed income securities, rather than rely on uncertain returns from stock and property investments. But the tax system in Singapore is biased against local residents holding bonds as they have to pay tax on interest income. In contrast, capital gains from buying and selling of shares and properties are non-taxable. .

Whether foreign and local investors will take a bigger bite of the Singapore bond market in the future remains to be seen. As liquidity is of the utmost importance to most investors, the MAS should continue to rev up the secondary market liquidity. To further improve secondary market liquidity, the MAS has been working on three main areas. Firstly, the MAS has fostered a liquid swap market by opening up the market to offshore banks and securities dealers, and by allowing Singapore dollars obtained by banks from swaps to be exempted from the MLA requirement. Secondly, it has provided market players with hedging mechanism by launching the three-month Singapore dollar interest rate futures contract as well as an SGS bond futures contract. Thirdly, it has made the infrastructure more conducive to market development by encouraging the use of e-bond technology and business.

VII. Conclusions and Lessons to be Learnt

The debt markets in Singapore have grown by leaps and bounds since 1998 when the MAS began to actively promote the SGS and SDCB markets. In recognition of such a sterling performance, JP Morgan has announced in March 2001 that Singapore would be the twenty-second country to be added to its Government Bond Index Broad (GBI Broad) with effect from 2 April 2000. This would introduce the SGS and SDCB to the international financial markets and encourage international players in the Singapore bond market. While promoting the SGS and SDCB markets, Singapore should not overlook the ADB market which has great potential for growth as soon as the regional economies recover from their current economic malaise. They might then wish to come to Singapore to issue bonds denominated in their own currencies to better hedge their investments back home.

The Singapore experience in building its bond markets offers several valuable lessons for other countries which are thriving to build their own bond markets. The primary lesson is that developing an active and viable bond market is an arduous task. A great deal of painstaking effort and patience is required. Despite putting in so much effort for so many years, the SGS and SDCB markets still suffer from lack of liquidity in the secondary market.

The other lesson is that the lack of an active and viable domestic bond market in the past has not held back the overall growth and development of Singapore. This is because Singapore has a sophisticated banking system and stock market which have helped to channel funds efficiently from savers to borrowers. Developing the bond market in Singapore is probably more important for generating income and employment

rather than for providing another channel of finance for the Singapore government and firms.

Another important lesson is that the government does not need to run fiscal deficits to develop Treasury bills and bonds. It is perhaps ironic that a government running budget surpluses has a relatively easier task raising funds through issuing government securities. This is because investors might have greater confidence in holding the bonds of such a government and would probably be willing to accept a lower yield. For Singapore, the government is deemed to channel most of the proceeds from the SGX issuance to the SGIC and MAS for onward investment in foreign assets.

Yet another lesson is that a small domestic market is not a serious impediment to developing the domestic bond market. Among all the ASEAN countries, Singapore is ranked the second highest, behind Indonesia, in terms of the share of public debt to GDP.¹¹ But Singapore is unique in the sense that the SGS have a captive market among the CPF, banks and insurance companies. It is unclear how the growth of the SGS market will be affected if the captive market for the SGS is reduced through, for example, a reduction or elimination of the MLA for banks. However, one thing is certain: there will be more free float of the SGS which should help increase its liquidity in the secondary market.

Finally, Singapore has shown that the building of a bond market undertaken in close collaboration between government and industry produces highly effective results. In the formulation and implementation of bond market reforms, the MAS has actively consulted the industry. Market practitioners are in the best position to help regulators keep abreast of latest developments in the industry. Constructive dialogues are essential

to help regulators fine tune their policies and avoid costly mistakes. However, the relationship between the regulator and the regulated should be at arms length and not adversarial.

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ENDNOTES

¹ This is the re-open of an old issue that has five more years to maturity.

² Non-competitive bidding is subject to a maximum bid size of S\$5000,000.

³ There are three different categories of banks in Singapore: full, restricted and offshore license banks. Basically, offshore banks could transact banking business in Singapore only with banks and other approved financial institutions.

⁴ In December 1998, the MLA requirement of finance companies was raised from 10 percent to 13 percent.

⁵ See MAS Annual Report 2000/2001, pp. 102.

⁶ The rationale for the policy change is discussed fully in an important speech “New Approach to Regulating and Developing Singapore’s Financial Sector” by BG Lee Hsien Loong, Chairman of the MAS, at the SESDAQ 10th Anniversary Dinner on 4 November 1997.

⁷ Defined as an individual whose total net personal assets exceed S\$1 million or whose annual income is not less than S\$200,000; or a corporation whose total net assets exceed S\$5 million.

⁸ There is no capital gains tax in Singapore. Interest income is added to the income of individuals or corporations, and taxed at the prevailing tax personal or corporate tax rates.

⁹ Generally, payments of any interest on bonds made to non-residents are subject to withholding of Singapore tax at the rate of 15 percent. This rate may be reduced under the double taxation conventions to which Singapore is a party.

¹⁰ In 1998, the SGIC announced that it would place out S\$35 billion to fund managers with Singapore offices. The MAS also earmarked S\$10 billion for outplacement with such fund managers.

¹¹ In 2000, the ratio for Indonesia and Singapore was 84.5 percent and 102 percent, respectively. See Kharas (2001).

Table 1: Growth of Singapore Debt Issuance (S\$ Billion)

Year	SGS T-Bill	SGS T-Bond	Total SGS	SDCB	ADB
1996	21.3	4.2	25.5	2.3	3.1
1997	22.5	3.5	26.0	6.7	1.7
1998	27.5	7.8	35.3	3.9	5.2
1999	35.3	7.4	42.7	9.2	10.3
2000	41.9	12.1	54.0	14.4	36.1

Source: MAS

Table 2: Investor Base of SGS (S\$ million)

Year	Commercial Banks				Others		Total SGS Outstanding
	Commercial Banks' Investment in T-Bills	Commercial Banks' Investment in T-Bonds	Commercial Banks' Total Investment in SGS	% Held by Commercial Banks	Others ^a	% Held By Others	
1988	2,161.20	3,251.20	5,412.40	87.72%	757.60	12.28%	6,170.00
1989	1,773.30	5,053.10	6,826.40	90.66%	703.60	9.34%	7,530.00
1990	1,998.90	5,934.00	7,932.90	91.39%	747.10	8.61%	8,680.00
1991	3,362.00	6,403.10	9,765.10	87.34%	1,414.90	12.66%	11,180.00
1992	4,660.00	6,945.80	11,605.80	84.71%	2,094.20	15.29%	13,700.00
1993	4,798.50	7,975.10	12,773.60	82.68%	2,676.40	17.32%	15,450.00
1994	4,888.10	8,681.30	13,569.40	84.23%	2,540.60	15.77%	16,110.00
1995	5,661.40	10,092.50	15,753.90	84.88%	2,806.10	15.12%	18,560.00
1996	5,939.00	11,599.00	17,538.00	85.55%	2,962.00	14.45%	20,500.00
1997	6,738.30	12,145.10	18,883.40	86.26%	3,006.60	13.74%	21,890.00
1998	8,103.70	18,398.30	26,502.00	92.57%	2,128.00	7.43%	28,630.00
1999	11,264.50	19,684.00	30,948.50	87.67%	4,351.50	12.33%	35,300.00
2000	11,023.90	22,694.90	33,718.80	77.98%	9,521.20	22.02%	43,240.00

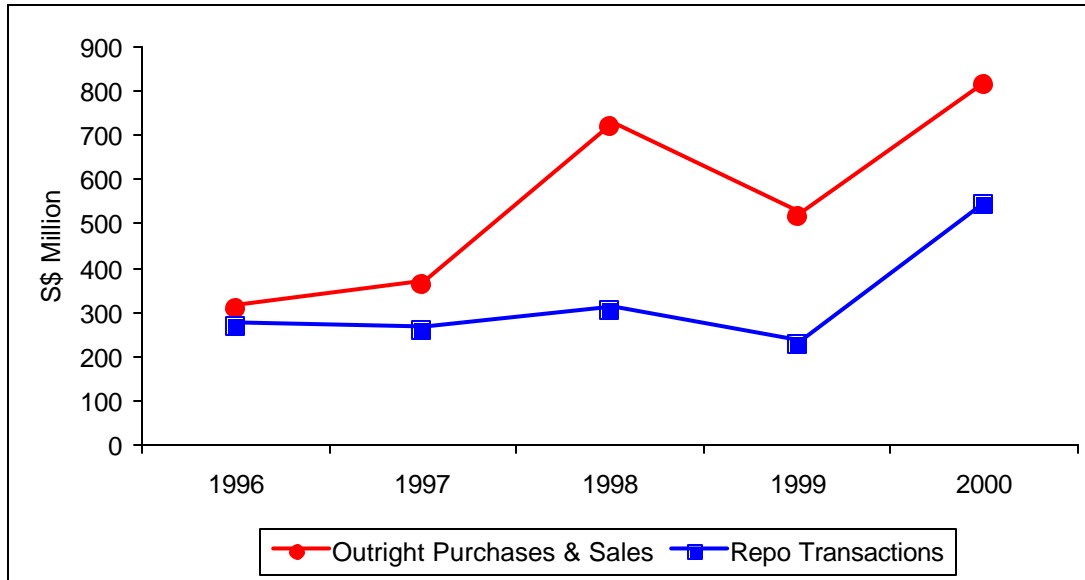
Source: MAS

Table 3: Current Tax Treatment for Debt Instruments in Singapore

Types of Instrument	Types of Income	Tax Treatment			
		Financial Institution	Resident		Non-Resident
			Corporation	Individual	
SGS issued on or after 28 Feb 1998	Trading Income	Primary Dealer – Exempted Others – Concession 10%	Taxable	Taxable	Taxable
	Interest Income	Concession 10%	Concession 10%	Taxable	Exempted
SGS issued before 28 Feb 1998	Trading Income	Primary Dealer – Exempted Others – Concession 10%	Taxable	Taxable	Taxable
	Interest Income	Taxable	Taxable	Taxable	Taxable
SDCB, ADB (QDS)	Trading Income	Concession 10%	Taxable	Taxable	Taxable
	Fee Income	Exempted	Not Applicable	Not Applicable	Not Applicable
	Interest Income	Concession 10%	Concession 10%	Taxable	Exempted
SDCB, ADB (Non-QDS)	Trading Income	Concession 10%	Taxable	Taxable	Taxable
	Fee Income	Taxable	Not Applicable	Not Applicable	Not Applicable
	Interest Income	Taxable	Taxable	Taxable	Taxable

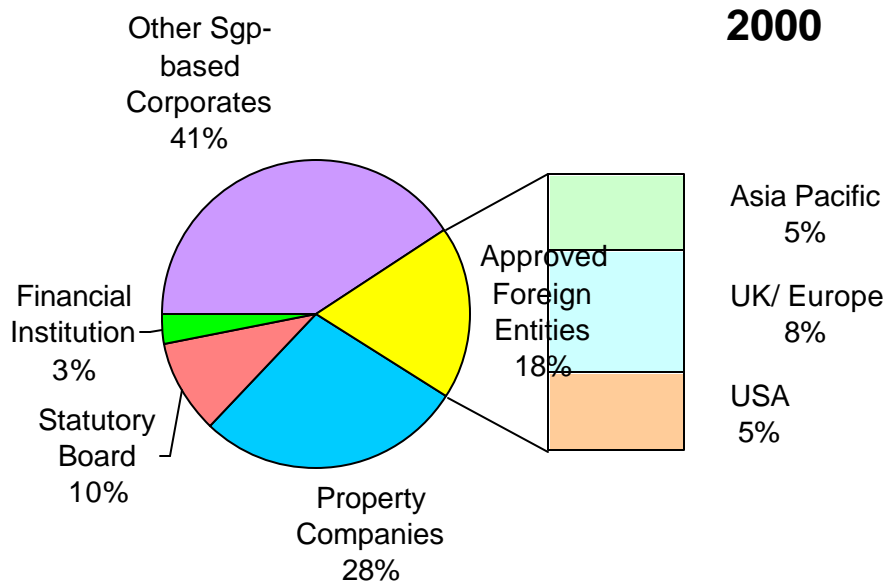
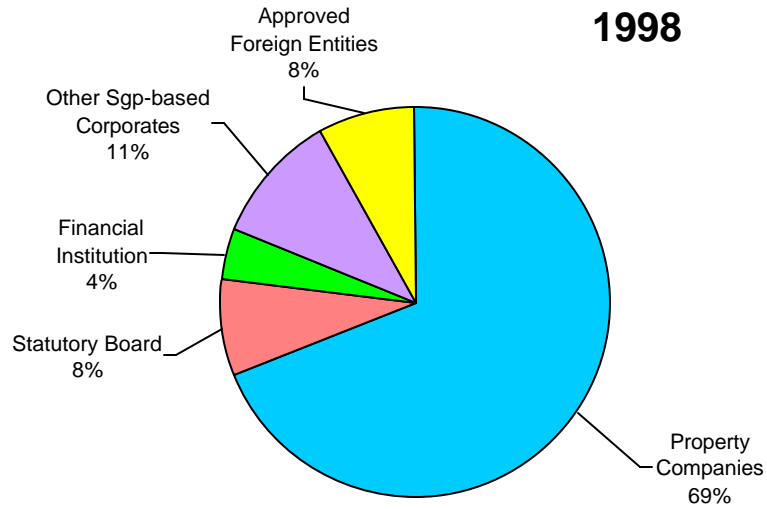
Source: MAS

Figure 1: SGS Average Daily Turnover Volume



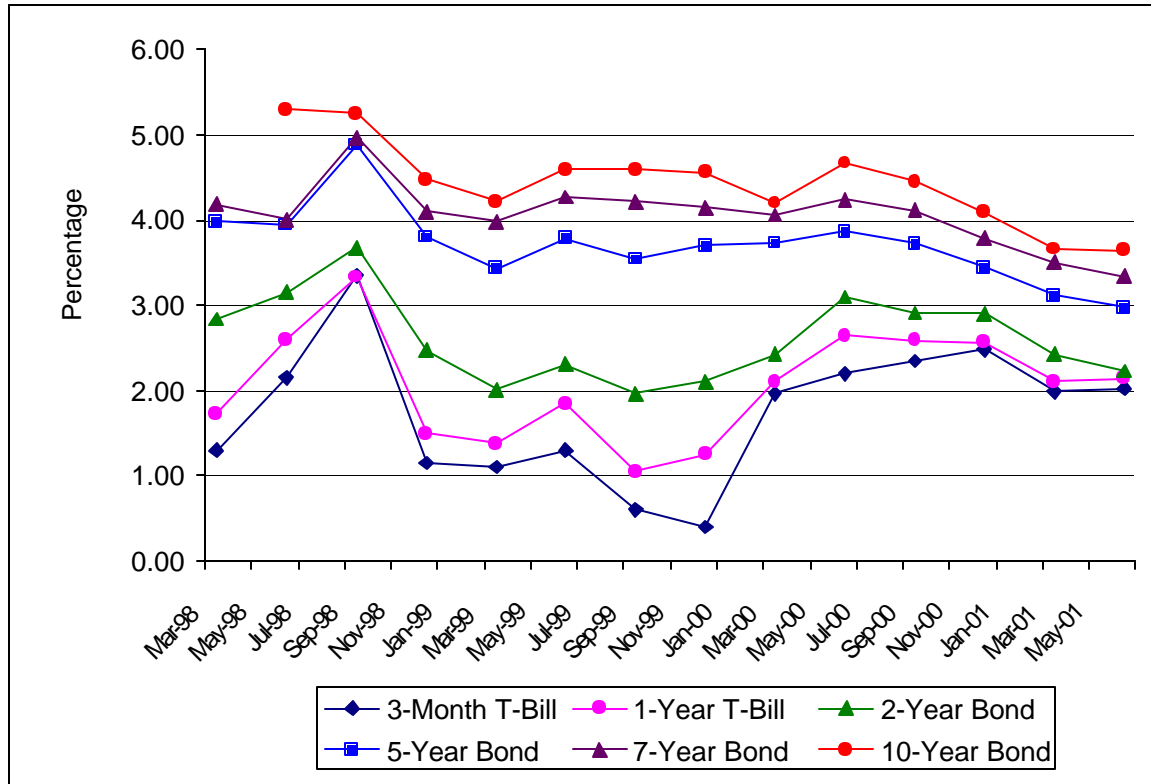
Source: MAS

Figure 2: Breakdown of SDCB Issuance by Issuer Type



Source: MAS

Figure 3: Yield Curves of SGS



Source: MAS