DEVELOPING DEBT MARKETS IN SINGAPORE: RATIONALE, CHALLENGES AND PROSPECTS

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The development of the debt markets in Singapore has been one of the key components of the Monetary Authority of Singapore's attempts to enhance Singapore's role as an international financial centre. The debt markets in Singapore are made up of three major segments: the Singapore government securities (SGS) market, the Asian dollar bond market, and the Singapore dollar corporate bond market. Despite the fact that the government has run budget surpluses since the 1980s and maintains huge reserves, the government securities market remains the biggest segment of the debt markets in Singapore. This paper describes the growth and structure of debt markets in Singapore and examines the factors that have hindered the development of these two markets. It also discusses the measures taken by the Monetary Authority to promote these markets and the challenges that lie ahead. Finally, it outlines the lessons from the Singapore experience.

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 centre. 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: the 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 MAS since 1971 to transform Singapore into a financial centre. While it still remains the smallest segment, the SDCB market has experienced phenomenal growth since 1989 when MAS began to promote it actively.

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Although these markets form the three important pillars of the debt markets in Singapore, 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. ADB has all along been exempted from withholding tax and banks have been enjoying a concessionary tax rate of 10 per cent on their income derived from arranging 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 are 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 ADB market will only be brought up to provide a complete picture of the debt markets in Singapore.

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

I. 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). SGS still dominates the debt markets in Singapore, with total gross issuance in 2000 amounting to some S$ 54 billion (S$ 41.9 billion for treasury bills and S$ 12.1 billion for bonds). This brought the total SGS outstanding at end 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 per cent 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 SDCB was only S$ 14.4 billion, which still represents a mere one quarter of the SGS issuance.

Table 1. Growth of Singapore debt issuance
(billions of US dollars)

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.

Structure of the SGS market

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, MAS has announced in May 2000 that all benchmark issues will be at least S$ 2 billion -2.5 billion in size. In the five-year bond auction in 2001, a new benchmark size of S$ 3.4 billion was established in response to market demand.[1]

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 11 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 stock broking 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 a 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-v-payment basis (DVP) over the MAS Electronic Payment System and the SGS Book-Entry Clearing System operated by MAS. This is the real-time gross settlement system introduced in July 1998 and replaces the former end-day net settlement system.

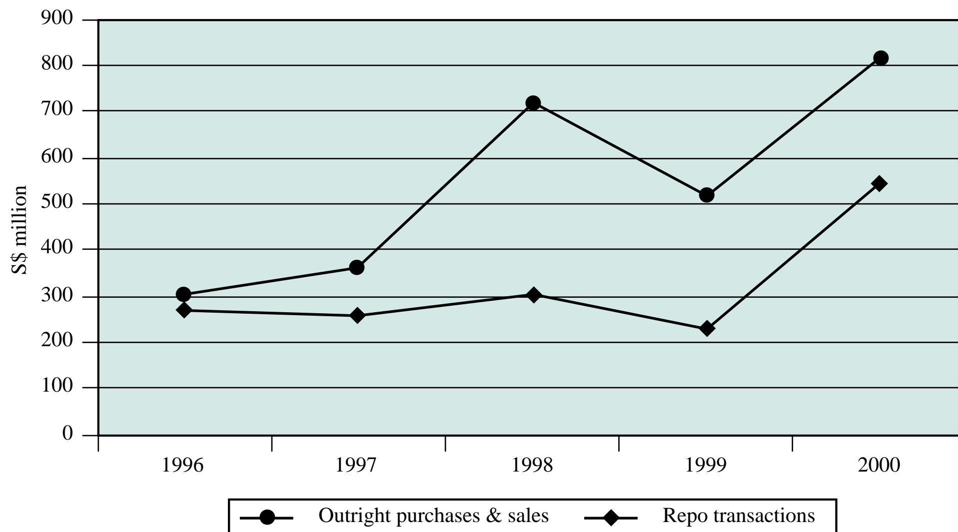
The repo market has become increasingly liberalized, as MAS recognizes that an active development of this market would enable investors and primary dealers

[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$ 5,000,000.

to finance their bond inventories and hedge their Singapore dollar debt positions. This would, in turn, facilitate a more active trading of 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, MAS also took an unprecedented step by carrying out its own SGS repo programme. This was aimed at re-channeling liquidity from off-the-run issues into larger and more liquid benchmark bonds. In December 2000, 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 the 1990s (see figure 1). The growth of repo transactions has, in turn, facilitated a more active trading of SGS and improved 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 behaviour on the part of market participants prior to the run-up to the year 2000.

Figure 1. SGS average daily turnover volume



Source: MAS.

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

The major holders of SGS are banks and finance companies. Banks hold SGS to meet their minimum liquid asset (MLA) requirement which currently stands at 18 per cent of their total liability base.[4] Of this 18 per cent, 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 per cent) of SGS are being "locked up" by banks.

It is frequently stated that the government-run pension fund, the 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 that are held by CPF until maturity. In 2000, CPF held S$ 60.6 billion of such bonds, which constituted one and a half times the total SGS outstanding. Most of the proceeds from such bonds were probably channelled to the Government of Singapore Investment Corporation (GSIC) for investment in foreign assets.

Structure of the ADB market

The first ADB was launched by 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 United States dollars. 2000 was probably a typical year, when some 93 per cent of the ADB market was denominated in United States dollars, with the remaining 7 per cent denominated in Hong Kong, China dollars, euros and yen.

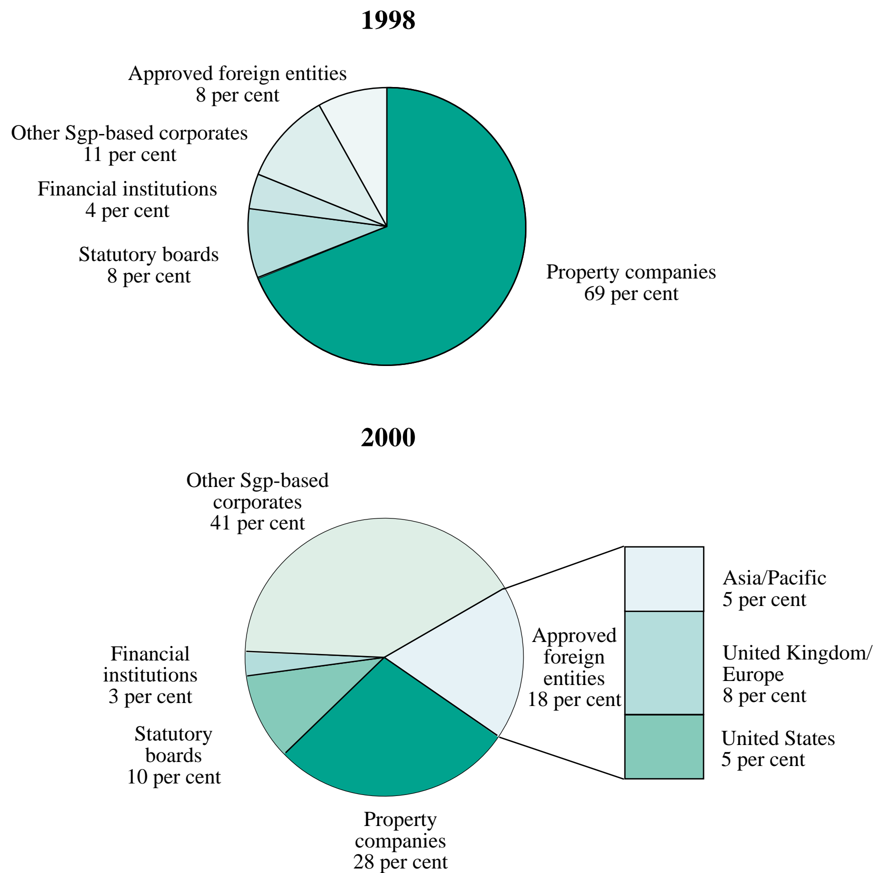
Structure of the SDCB market

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 issuers, accounting for about 70 per cent of total issuance in the SDCB market. By 2000, the

[4] In December 1998, the MLA requirement of finance companies was raised from 10 per cent to 13 per cent.

[5] See MAS annual report 2000/2001, p. 102.

Figure 2. Breakdown of SDCB issuance by type of issuer



Source: MAS.

issuer mix has become more balanced, with property companies accounting for only 28 per cent of the debt issuance. Other major issuers were statutory boards (10 per cent) and foreign entities (18 per cent). 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 MAS to promote its corporate bond market.

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 bank balance sheets were under extreme stress because

of the concentration on bank lending, MAS has 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 governments call by launching a S$ 1 billion five-year issue in February 2001, the largest issuance in the SDCB market to date. In addition to straight fixed and floating rate 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 was accomplished through MAS Notice 757, introduced in August 1998 and amended in November 1999. The main points of this legislation are as follows:

(a) If the Singapore dollar proceeds from bond issuance are not used for economic activity in Singapore, they must be swapped into a foreign currency;

(b) The swap leg of the above transaction is exempt from cash and MLA requirements and from tax;

(c) There is no minimum size requirement (the minimum issue size was S$ 100 million when Notice 757 was first issued);

(d) There is no restriction on the credit rating of issuers;

(e) If funds raised are for use in Singapore, issues for non-bank non-residents do not require prior MAS approval.

Despite the condition that requires 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 until 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. Over the past few years, tenors of the bonds have generally been extended, in some cases to as long as 10 years.

Many supranationals and multinationals have 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. Note that a Singapore dollar loan combined with a currency swap would result in a "synthetic" foreign currency loan. 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 further 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.

II. RATIONALE FOR DEVELOPING THE SGS AND SDCB MARKETS

The over-dependence on bank lending and short-term capital inflows to finance long-term investments has 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' overexposure 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 investors in 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.

III. FACTORS HINDERING BOND MARKET DEVELOPMENT IN SINGAPORE

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

Table 2. Investor base of SGS

(millions of US dollars)

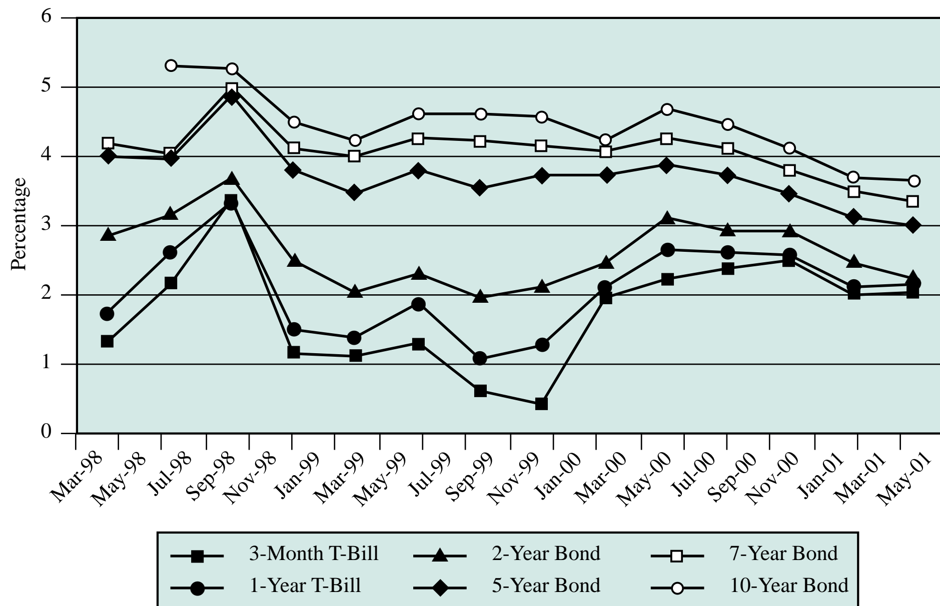
	Commercial banks				*Others*		
Year	*Commercial banksÕ investment in T-Bills*	*Commercial banksÕ investment in T-Bonds*	*Commercial banksÕ total investment in SGS*	*Held by commercial banks (percentage)*	*Others[a]*	*Held by others (percentage)*	*Total SGS outstanding*
1988	2 161.20	3 251.20	5 412.40	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.

[a] Includes corporations, insurance companies, etc.

On the demand side, most Singapore investors have a 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 various SGS in recent years). In addition, 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. Bond trading in the OTC market also lacks liquidity and transparency. As a result, bond investors tend to buy and hold bonds rather than trade actively.

Figure 3. Yield curves of SGS



Source: MAS.

IV. MEASURES TO FURTHER DEVELOP THE MARKETS

1997 could be considered a watershed year in the development of Singapore as a financial centre. In that year, MAS announced a new approach to financial sector management in an effort to boost Singapore's status as a financial centre.[6] Arising from the sea change in its policy, MAS had embarked on a comprehensive effort to

[6] The rationale for the policy change is discussed fully in an important speech on a new approach to regulating and developing Singapore's financial sector by BG Lee Hsien Loong, Chairman of MAS, at the SESDAQ tenth anniversary dinner on 4 November 1997.

develop the debt markets in Singapore. MAS took a gradualist rather than a "big bang" approach. Thus far, its efforts have been focused on further developing the SGS and SDCB markets, as well as introducing various tax-reduction measures to promote these markets.

Promoting the SGS market

1998 saw not only more SGS being issued but also the launch of the first 10-year government bond issue to extend the yield curve (beyond the then longest-dated seven-year issue). In that year, 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 Singapore dollar interest rate derivatives to enable market participants to manage interest rate risks arising from investing in the SGS market. Following the introduction of the Singapore dollar three-month interest rate futures contract on the Singapore Exchange, MAS lifted all restrictions on Singapore dollar over-the-counter interest rate derivatives such as interest rate swaps, forward rate agreements, interest rate options and swap options. However, banks were required to submit monthly reports on details of interest rate derivative transactions exceeding S$ 5 million with counterparties outside Singapore.

In 2000, 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 a 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 five percentage points of the MLA requirement. The third step was the implementation of a SGS issuance programme aimed at building large and liquid benchmark bonds.

The year 2001 witnessed the launch of a five-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.

Promoting the SDCB market

In the past few years, MAS had been actively promoting the SDCB market in parallel with its various initiatives to develop the SGS market further. Introduced in August 1998, Notice 757 has been the cornerstone of the MAS 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 long-standing policy of MAS against the internationalization of the Singapore dollar. To add further impetus to the development of the SDCB market, MAS has been actively encouraging the statutory boards and government-linked corporations to tap the SDCB market rather than relying on bank loans for its 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:

(a) All rated foreign corporations;
(b) All sovereigns, rated or unrated;
(c) 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, MAS had announced in 1999 that banks were no longer required to set aside reserves for Singapore dollars received from swaps of more than one year in maturity with non-banks. This was relaxed further in March 2001 when banks no longer needed 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, MAS decided to open up the market further by permitting offshore banks and securities dealers to engage in Singapore dollar swap activities.

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, MAS introduced the Qualifying Debt Securities (QDS). These are debt securities substantially arranged by financial institutions in Singapore. Fee income earned by financial institutions that arrange QDS will be

[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 personal or corporate tax rates.

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 per cent	Taxable	Taxable	Taxable
	Interest income	Concession 10 per cent	Concession 10 per cent	Taxable	Exempted
SGS issued before 28 Feb 1998	Trading income	Primary dealer – exempted Others – Concession 10 per cent	Taxable	Taxable	Taxable
	Interest income	Taxable	Taxable	Taxable	Taxable
SDCB (QDS)	Trading income	Concession 10 per cent	Taxable	Taxable	Taxable
ADB	Fee income	Exempted	Not applicable	Not applicable	Not applicable
	Interest income	Concession 10 per cent	Concession 10 per cent	Taxable	Exempted
SDCB (non-QDS)	Trading income	Concession 10 per cent	Taxable	Taxable	Taxable
	Fee income	Taxable	Not applicable	Not applicable	Not applicable
	Interest income	Taxable	Taxable	Taxable	Taxable

Source: MAS.

exempted from tax. In addition, interest income earned by financial institutions and corporations from holding QDS will enjoy a concessionary tax of 10 per cent. Income earned by financial institutions from trading QDS will also be taxed at 10 per cent. Furthermore, interest income from QDS earned by non-residents that do not have permanent establishments in Singapore will be exempt 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 QDS.

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

In the 1999 budget, MAS introduced the Approved Bond Intermediary (ABI) scheme. ABI status will be given to financial institutions that 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 ABI status.

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

V. CHALLENGES AHEAD

The bond market in Singapore has come a long way, especially since 1998 when MAS began to promote it actively. As a result, the SGS market has become more liquid. The risk-free benchmark yield curve has also been lengthened to a 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 the Republic of Korea. While the results are encouraging thus far, Singapore still has some way to go to become one of the centres for the Asian bond market. Going forward, Singapore faces two main challenges: (a) attracting more issuers to tap the SDCB and ADB markets, and (b) 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.

Attracting more issuers

Because of its domestic market is small, Singapore must develop as the centre 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 develop the SDCB market further, Singapore has to encourage issuers not only from Singapore but also from all over the world. It should emulate Switzerland where further 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. Favourable market factors, such as 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, MAS might consider relaxing this ruling for foreign issuers that could fulfill the following conditions: (a) have a good reputation and strong credit rating, and (b) 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 centre for the issuing and trading of regional currency bonds. Over the next decade or so, the regional governments will need to borrow large sums of money to finance fiscal deficits as well as to restructure and recapitalize their hard-hit financial institutions. Private companies in the region will demand massive amount of funds to build their productive capacities that 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.[10] 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 degrees 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 restrictions imposed on capital outflows are lifted.

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[10] 1998 was rather unusual as in that year 45 of the 83 issues in the ADB market were denominated in Indonesian rupiah.

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, 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 fund managers in Singapore is likely to continue for various reasons. First, the Government of Singapore Investment Corporation (GSIC) and MAS have both announced plans to outplace a substantial amount of their funds to asset managers in Singapore.[11] 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 that 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 was introduced in 2000. The scheme is also expected to enlarge the pool of investible funds since it provides tax incentives to individuals to save over and above their CPF contributions.

The demand for Singapore dollar bonds 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, MAS should continue to rev up the secondary market liquidity. To further improve secondary market liquidity, MAS has been working on three main areas. First, 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. Second, it has provided market players with a hedging mechanism by launching the three-month Singapore

[11] In 1998, GSIC announced that it would place out S$ 35 billion to fund managers with Singapore offices. MAS also earmarked S$ 10 billion for outplacement with such fund managers.

dollar interest rate futures contract as well as an SGS bond futures contract. Third, it has made the infrastructure more conducive to market development by encouraging the use of e-bond technology and business.

VI. CONCLUSIONS AND LESSONS

The debt markets in Singapore have grown by leaps and bounds since 1998 when MAS began to promote the SGS and SDCB markets actively. In recognition of such an impressive performance, JP Morgan announced in March 2001 that Singapore would be the twenty-second country to be added to its Government Bond Index Broad, with effect as of 2 April 2000. This would introduce SGS and SDCB to the international financial markets and encourage international investers 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 that 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 the issuance of 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.[12] But Singapore is unique in the sense that 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 SGS is reduced through, for example, reduction or elimination of the MLA for banks. However, one thing is certain: there will be a bigger free float of SGS, which should help increase its liquidity in the secondary market.

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

[12] In 2000, the ratio for Indonesia and Singapore was 84.5 per cent and 102 per cent, respectively. See Kharas (2001).

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Appendix: Approved foreign entities issuing S$ bonds

Issuer	*Amount (millions of US dollars)*	*Tenor*
1998 Q3		
International Finance Corp.	300	3-yr
1999 Q1		
GE Capital	400[a]	3-yr
Nordic Investment Bank	200[b]	5-yr
Nordic Investment Bank	150	10-yr
European Bank for Reconstruction and Development	150	5-yr
Ford Motor Credit	150	5-yr
1999 Q2		
JP Morgan	100	5-yr
JP Morgan	100	10-yr
1999 Q3		
John Hancock	150	5-yr
Rabobank International	100	5-yr
Toyota Motor Credit	200	3-yr
Westpac Banking Corporation	150	5-yr
International Finance Corp.	100	5-yr
DePfa Deutsche Pfandbriefbank AG	100	7-yr
1999 Q4		
Abbey National Treasury Service	100	5-yr
ABN Amro Bank NV	100	5-yr
United Parcel Service of America, Inc.	100	5-yr
Telefonaktiebolaget LM Ericsson	100	3-yr
Morgan Stanley Dean Witter & Co.	125[c]	5-yr
Lehman Brothers Holdings plc.	100	7-yr
2000 Q1		
Dresdner Bank Aktiengesellschaft	150	10-yr
Bayerische Motoren Werke AG	100	1-yr
Banque Nationale de Paris	100	10-yr
Daimler-Chrysler UK Holding Plc.	100	3-yr
Cheung Kong Finance (Cayman)	100	7-yr
Skandinaviska Enskilda Banken	100	10-yr
2000 Q2		
Westpac Banking Corporation	100	3-yr
General Motors Acceptance Corp.	150	3-yr
Commerzbank Aktiengesellschaft	100	10-yr
HC & B	100	3-yr
Bayerische Hypo-und Vereinsbank AG	250	10-yr

Issuer	*Amount (millions of US dollars)*	*Tenor*
2000 Q2		
Pacific Life Funding, LLC	100	5-yr
LVMH Moet Hennessy Louis Vuitton	100	1-yr
Banco Santender Central Hispano S.A.	150	10-yr
Korea Development Bank	100	1-yr
Resorts World (Labuan) Ltd.	100	3-yr
2000 Q3		
Westpac Banking Corporation	100	10-yr
BNP Paribas	130	10-yr
John Hancock	180	5-yr
2000 Q4		
Goldman Sachs Group, Inc.	70	10-yr
Goldman Sachs Group, Inc.	60	5-yr
Heller Financial Inc.	100	2-yr
Bayerische Hypo-und Vereinsbank AG	125[d]	10-yr
2001 Q1		
John Hancock Life Insurance Company	100	10-yr
Jackson National Life Insurance Company	100	10-yr
Morgan Stanley Dean Witter & Co.	30	5-yr
Bank of America Corporation	100	10-yr
Bank of America Corporation	50	10-yr
Erste Bank der Oesterreichischen Sparkassen	100	10-yr
Ford Motor Credit Company	100	5-yr
Global Asset Programme Limited	41	5-yr
Standard Life Funding BV	93.52	3-yr
Telstra Corporation Limited	100	7-yr
National Australia Bank	50	2-yr
Total since MAS Notice 757 (August 1998)	**6 554.25**	

Source: MAS.

[a] GE Capital – Original amount was issued in March 1999, S$ 100 million was reopened in May 1999.

[b] Nordic Investment – Original amount of S$ 150 million was issued in March 1999, S$ 50 million was reopened on 19 July 1999.

[c] Morgan Stanley – Original amount of S$ 100 million was issued in November 1999, S$ 25 million was reopened in December 1999.

[d] Bayerische Hypo-und Vereinsbank AG – Original amount of S$ 125 million was issued in Q2 2000, was reopened in October 2000.