DEVELOPMENT OF HONG KONG'S DEBT MARKET *

Hong Kong provides an interesting example of how, in a relatively free economy and in the absence of fiscal needs, concerted public actions can effectively facilitate capital market development. Exchange Fund Bills and Notes serve as instruments for monetary management as well as to broaden and deepen the Hong Kong debt market by providing a benchmark yield curve. With the launch of 7-year Exchange Fund Notes in November 1995, the benchmark yield curve has now been extended further. There is now around HK$200 bn in HK dollar debt paper outstanding.

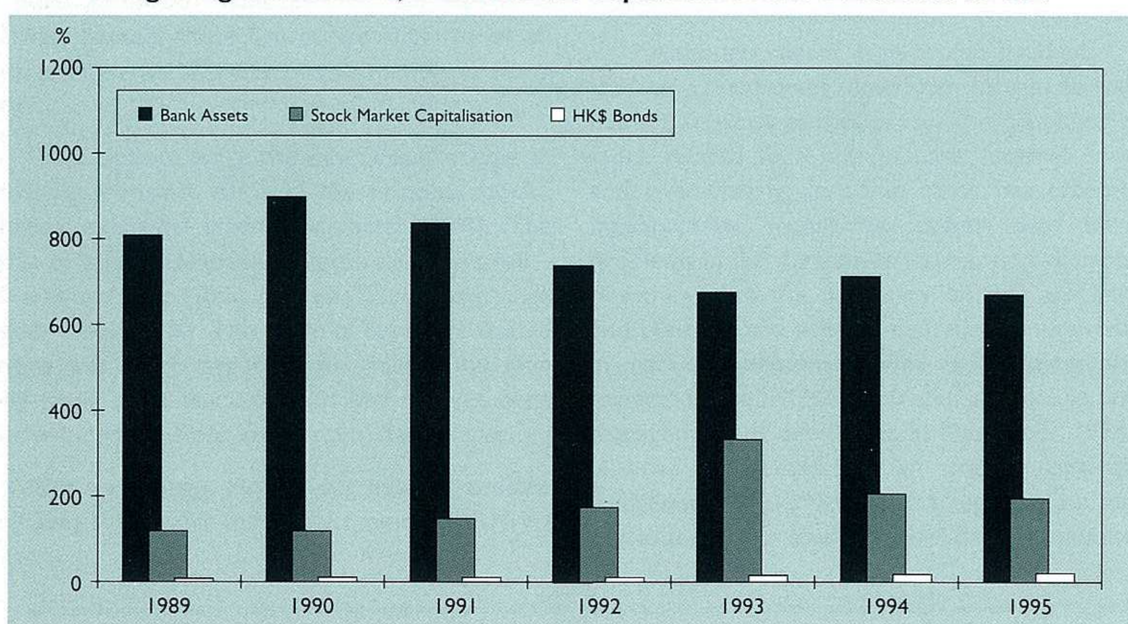
Introduction

Hong Kong's status as an international financial centre is well-known. In comparison with the rest of the world, it ranks 5th in terms of external assets of banks; 5th in terms of foreign exchange turnover; and 8th in terms of stock market capitalisation.

The development of the debt market in Hong Kong is, however, only a recent phenomenon. As a result, while our stock market (with capitalisation twice that of GDP) and banking sector (with assets around 7 times that of GDP) are among the top in the world in terms of size, our debt market is relatively small, at only 17% of GDP (Chart 1).

The relative sizes of the banking sector, the stock market and the debt market in HK reflect the sequence of development of our financial sector, which is not unlike that in many other economies in East Asia. Basically, the first to develop was the banking sector, which served as the main corporate funding source for a long time. Next came development of the equities market, which began to flourish in the 1960s in Hong Kong, although for much of the rest of East Asia equities did not really take off until the 1980s. Development of the debt market came last, such that by end-

Chart 1
Hong Kong: Bank Assets, Stock Market Capitalisation and Bonds as % to GDP



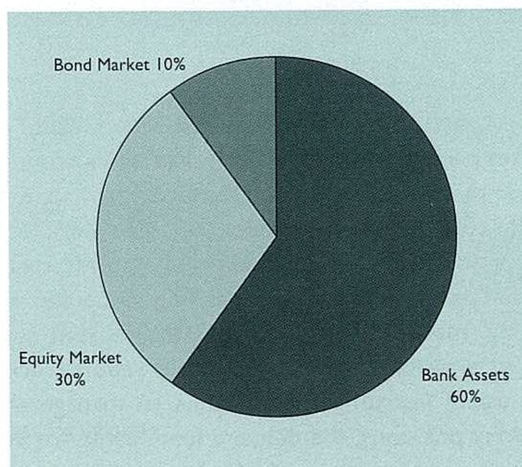
* An earlier version of this paper was used in a presentation by James H. Lau Jr., Executive Director, External Department, to share Hong Kong's experience at a seminar on "Development of Financial Markets in Sub-Saharan Africa: Experiences and Policy Options" in Geneva, Switzerland .

1994 the total value of the bond markets for eight East Asian economies[1] was less than one-third that of their equity markets, and only one-sixth that of their combined banking sectors (Chart 2).

There are several reasons for this slower development of debt markets in much of East Asia.[2] Among the most important is probably the lack of a benchmark against which to price bond offerings, a result of the strong fiscal discipline which has obviated the need to issue government securities for financing expenditures. Other important factors include the preference of retail investors for the risk and reward associated with the more volatile equity markets; bank dominance in the financial sector; and lack of a government mandated employee retirement or provident fund, although the latter will be changed soon in Hong Kong.

Hong Kong provides an interesting example of how, in a relatively free economy and in the absence of fiscal needs, concerted public actions can effectively facilitate debt market development. Like many other economies in East Asia, its debt market gained a major boost with the introduction of government debt paper in 1990. Prior to that, there were some issues of private sector debt paper, comprising mostly negotiable certificates of deposit and commercial paper (Table 1). The introduction of the government debt paper, that is

Chart 2
Financial Markets in East Asia



Exchange Fund Bills, immediately more than doubled the size of the debt market, as gross issues of debt papers rose from HK$31 bn in 1989 to HK$80 bn in 1990, of which HK$16 bn were Exchange Fund Bills. From 1990 to 1995 gross issues of debt papers in HK further tripled (Chart 3) to HK$247 bn, of which nearly almost half are private sector issues (Chart 4).

In terms of HK dollar debt paper outstanding, at end 1995 there was HK$197 bn, comprising $59 bn of Exchange Fund paper and $138 bn of private sector paper (Table 2). The majority of the private sector paper was floating rate and most had an original maturity of over 3 years (Table 3).

Development of the Exchange Fund Paper programme

Rationale

The Exchange Fund Bills programme had its inception in early 1988, when the idea of issuing them was first proposed for the purpose of enhancing monetary management with the ultimate objective of maintaining exchange rate stability. At the same time it was also specified that the programme was not designed for the purpose of financing fiscal deficits. It is for this reason that the bills are issued by the Exchange Fund rather than for the account of general revenue, and are called "Exchange Fund Bills" rather than "treasury bills". In addition, it was also recognised that one consequence of the issuance of these bills, through provision of a benchmark, may be the development of the HK dollar debt market.

Development of the programme gained momentum with the introduction in July 1988 of the "Accounting Arrangements", which provided the HKMA a mechanism with which to manage interbank liquidity. Exchange Fund Bills could be used as an additional instrument for conducting money market operations, and thereby managing interbank liquidity, within its framework. This would be an improvement over one of the existing tools at that time, which was lending to and borrowing from banks, for two reasons. First, Exchange Fund Bills would not carry the credit risk which lending to banks would entail. Second, it is

1 China, Hong Kong, Indonesia, Korea, Malaysia, Philippines, Singapore and Thailand. Data from *The Emerging Asian Bond Market*, June 1995, World Bank, pp.83-85.

2 This paragraph draws on the World Bank Study referred to above, which contains more details.

Table 1
Gross Issues of Debt Paper in Hong Kong

HK$'mn	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995
PRIVATE												
Negotiable Certificates of Deposit	6,004	11,763	20,022	17,056	14,824	10,205	50,410	16,104	16,652	46,994	66,157	54,387
Hong Kong Dollar	2,360	7,495	13,196	7,565	6,075	5,510	8,627	7,181	9,800	13,663	48,799	38,390
Foreign Currencies	3,644	4,268	6,826	9,491	8,749	4,695	41,783	8,923	6,852	33,331	17,358	15,997
Commercial Paper	4,383	15,753	11,627	19,157	15,046	6,778	6,751	6,225	8,319	32,438	0	3,866
Hong Kong Dollar	3,600	10,300	5,775	5,950	4,650	2,800	6,400	3,300	6,000	4,350	0	0
Foreign Currencies	783	5,453	5,852	13,207	10,396	3,978	351	2,925	2,319	28,088	0	3,866
Bonds and Notes					1,215	14,012	6,193	6,673	10,762	42,739	95,365	54,206
Hong Kong Dollar					591	897	1,100	1,000	1,500	10,950	16,940*	22,530*
Foreign Currencies					624	13,115	5,093	5,673	9,262	31,789	78,425	31,676
	10,387	27,516	31,649	36,213	31,085	30,995	63,354	29,002	35,733	122,171	161,522	112,459
PUBLIC – Exchange Fund Bills/Notes												
91-day							15,266	22,800	32,800	51,000	75,500	93,600
182-day							1,000	5,200	6,300	10,100	18,400	24,960
364-day								2,200	2,800	3,400	6,200	8,450
2-year										1,500	2,000	2,400
3-year										500	2,000	2,400
5-year											1,000	2,400
7-year												600
							16,266	30,200	41,900	66,500	105,100	134,810
Grand Total	10,387	27,516	31,649	36,213	31,085	30,995	79,620	59,202	77,633	188,671	266,622	247,269

Data Sources:

NCD, CP – Securities and Futures Commission
Bonds and Notes – Euromoney Bondware (c) Euromoney Publications plc (Data) - Computasoft Ltd. (Software) 1983-94
Exchange Fund Bills and Notes – Central Moneymarkets Unit, HKMA
* Survey on the Hong Kong Dollar Debt Market, HKMA (1996).

cheaper than borrowing from banks given the high quality (that is credit rating) and liquidity of the bills.

The first batch of Exchange Fund Bills was introduced in March 1990. Since then the rationale of the programme has been extended to include market deepening and broadening through extension of the benchmark yield curve by the issuance of Exchange Fund paper of increasingly longer maturities. The benchmark yield curve has just been extended to 7 years through the issuance of 7-year Exchange Fund Notes at the end of 1995.

Apart from the Exchange Fund Bills and Notes programmes, the HKMA has also introduced other measures to develop the debt market. It has widened the scope of repo securities eligible for discounting under the Liquidity Adjustment Facility. In addition to Exchange Fund paper, certain high quality, marketable HK dollar-denominated paper are in principle eligible. As eligible repo securities are useful instruments for banks to manage their liquidity positions, the demand from banks for such paper would increase, which should help promote HK dollar debt issues. The most recent effort to further broaden the debt market is HKMA's programme to promote mortgage-backed securities.

Chart 3
Gross Issues of Debt Papers in Hong Kong

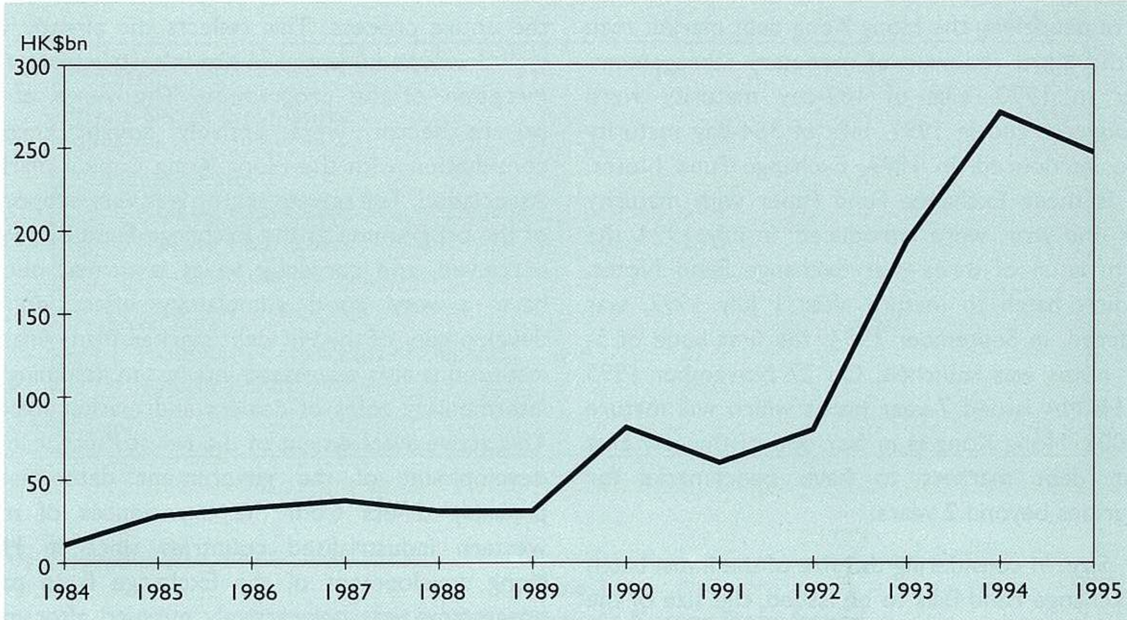
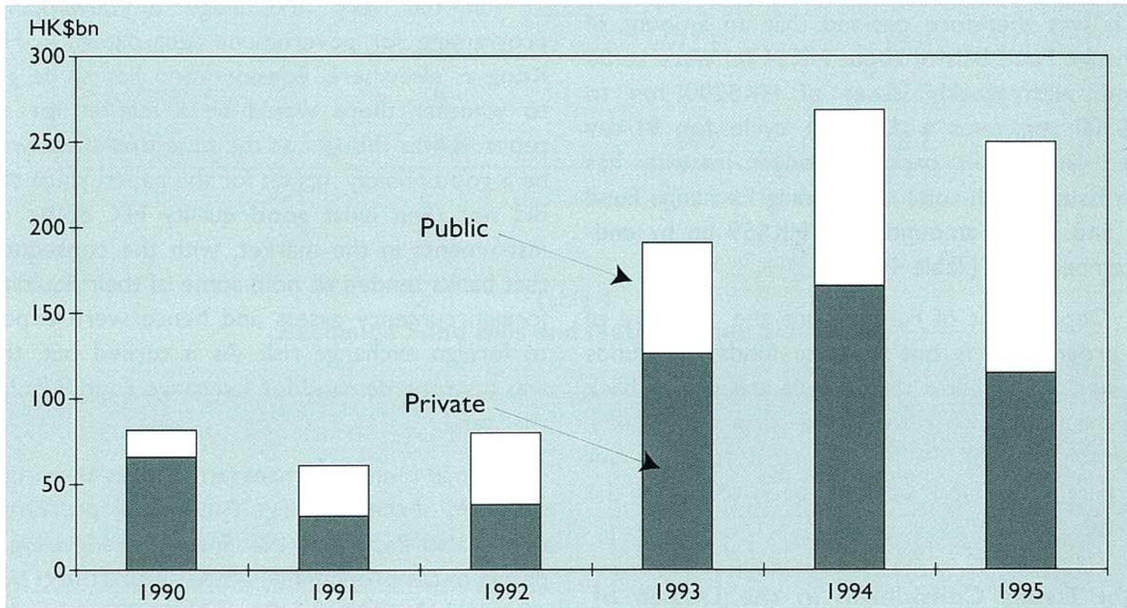


Chart 4
Gross Issues of Debt Papers in Hong Kong



Main Features

Maturity. As the purpose of the bills was to facilitate the management of interbank liquidity (with the objective of maintaining exchange rate stability), exchange rate movements are more sensitive to short (rather than long) term interest rates and money market trading was most active up to 3-month maturity, it was decided that the securities initially issued should have 91-day maturity (91 days was chosen for administrative convenience so that payments on settlement and maturity will regularly fall due on the same day of each week).

Securities of longer maturities have been issued since then, more for the purpose of extending the HK dollar benchmark yield curve and of deepening the Hong Kong debt market than for the initial rationale of monetary management. Later in 1990, bills of 182-day maturity were introduced, and in 1991, bills of 364-day maturity were introduced. In 1993, Exchange Fund Notes, that is those Exchange Fund Paper with maturity over one year, were introduced. In July 1994, the fourth issue of three-year Exchange Fund Notes, the first batch to mature after 1 July 1997, was tendered. In September 1994, the first issue of 5-year notes was launched. On 27 November 1995 the HKMA issued 7-year notes which will mature in 2002. Hong Kong is in fact one of the few East Asian debt markets to have benchmarks for maturities beyond 2 years.

Size. In considering the size of the initial batch of Exchange Fund Bills to be issued, the size of the clearing balance of the banking system had to be taken into account since the Exchange Fund Bills were issued for the purpose of managing interbank liquidity. At the time, the clearing balance of the banking system ranged from HK$1 bn to HK$1.5 bn. It was therefore decided that an amount of Exchange Fund Bills of about HK$4 bn were to be issued, with weekly issues of HK$200 mn to HK$300 mn over a 13-week cycle for 91-day paper. Since then, paper of longer maturity has been issued, with total outstanding Exchange Fund Bills and Notes amounting to HK$59 bn by end-December 1995 (Table 4).

Deployment of Funds. Since the objective of the programme is not to raise funds, the funds obtained from selling the EF bills are placed back into the market to restore the drain on liquidity. However, the HKMA has the right to place out only part of the funds obtained so as to tighten the market.

Major Issues Considered in the Design of the Programme

Major issues in the development of the Exchange Fund Bills programme could be grouped under three categories: (i) market development; (ii) payment and settlement; and (iii) others, which include taxation, risk-weighting, supervision and training issues.

One feature worth highlighting in the development of Hong Kong's debt market is the close involvement of the private sector through the entire process. This reflects the already very well-developed financial sector infrastructure at the inception of the programme. The views of the private sector were actively sought through consultation with the Hong Kong Capital Markets Association. The private sector was very supportive of the programme as the Exchange Fund Bills were perceived, and correctly so as it turned out, to have a very good stimulatory effect on the development of the HK debt market. Many financial institutions also expressed interest in assuming the intermediary roles of dealers and market makers. This active involvement of the private sector in the development of the government debt market probably differs from the experiences of many western industrialised countries since in Hong Kong development of the Exchange Fund paper programme was only actively pursued after much of the financial sector infrastructure was already in place.

Market Development

In the very first stage of developing a programme for government debt paper, in Hong Kong as elsewhere, consideration has to be given to whether there would be a market for such paper. It was thought at the time that there would be a good *primary market* for the paper, since there did not then exist good quality HK dollar debt instruments in the market, with the consequence that banks tended to hold some of their liquidity in foreign currency assets and hence were exposed to foreign exchange risk. As it turned out, there was a strong demand for Exchange Fund Bills from the start.

Since monetary management was the primary rationale of the Exchange Fund paper programme, it was also important that from the beginning the design of the programme would ensure the creation of a liquid *secondary market*. Hong Kong has been very successful in this regard, which is nearly unique among East Asian bond markets. In fact, in 1994 and 1995 the average daily turnover reached around HK$20 bn, which meant that around a third to a half of the Exchange Fund paper outstanding was traded every day, making it one of the most actively traded government securities in

Table 2:
Outstanding Amount of HK$ Debt Issues: end 1995

(HK$ bn)

Exchange Fund Bills and Notes			58.7
Private Sector Debt Issues			138.2
of which:			
Floating Rate		89.7	
Floating Rate Certificates of Deposit	61.4		
Floating Rate Notes	25.0		
Mortgage-Backed Securities	3.2		
Fixed Rate		48.5	
Fixed Rate Certificates of Deposit	22.6		
Straight Bonds	26.0		
Total			196.9

Table 3:
Original Maturity of Private Sector Debt Issues

(HK$ bn)

	Fixed Rate Paper	Floating Rate Paper	Total	(%)
< 3 years	6.6	5.2	11.7	(8.5)
3 - 5 years	25.9	73.1	99.0	(71.6)
> 5 years	16.1	11.4	27.5	(19.9)
Total	48.5	89.7	138.2	(100.0)

Table 4:
Exchange Fund Bills and Notes – Issue Schedule

Type	Issue Size (HK$ mn)	Reserves Amount (HK$ mn)	First Issue Date	Frequency	No. of Issues in a Full Cycle	Actual Amount Outstanding as at 31.12.95 (HK$mn)	Authorised Maximum Amount Outstanding (HK$ mn)
91-day Bills	1,500	300	14 Mar 90	weekly	13	23,400	23,400
182-day Bills	800	160	31 Oct 90	every 2 weeks	13	12,480	12,480
364-day Bills	500	150	27 Feb 91	every 4 weeks	13	8,450	8,450
2-year Notes	500	100	18 May 93	quarterly	8	4,800	4,800
3-year Notes	500	100	26 Oct 93	quarterly	12	5,400	7,200
5-year Notes	500	100	27 Sep 94	quarterly	20	3,000	12,000
7-year Notes	500	100	27 Nov 95	quarterly	28	600	16,800
					Total	58,130	85,130

the world (Chart 5). The HKMA conducts monetary operations through buying and selling Exchange Fund Bills in the secondary market.

Development of the Primary Market. In accordance with the very liberal financial sector, pricing of these debt issues is by *tender*. In order that the tender process will be manageable, it was decided that the tender will only be opened to *recognised dealers*. It was expected that the bills could be issued at rates below interbank bid rates, which turned out to be the case, given the lack of credit risk and the liquidity associated with the bills.

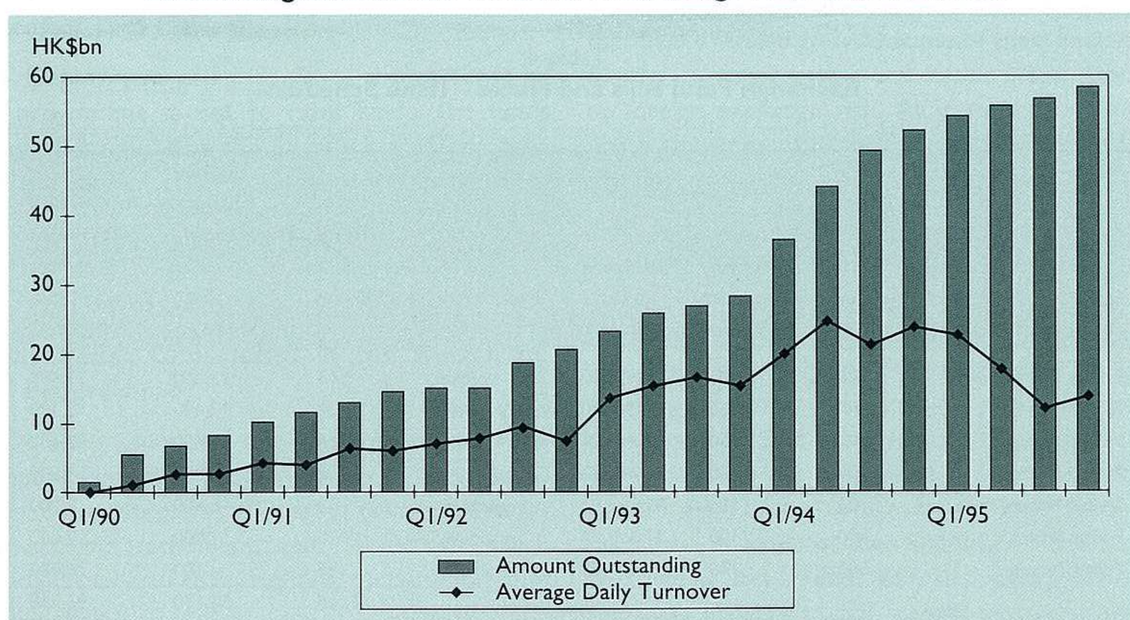
It was decided that the tender should be on a regular basis in order to familiarise market participants with the ongoing availability of the instrument, and to maintain investor interest in the tenders. The decision was made to have weekly tenders for the initial issues — that is those of 91-day maturity. The minimum tender size was to be HK$500,000 so that the number of tenders could be manageable. Another salient feature of the tender is that the Exchange Fund reserves the right to scale down at its discretion the amount allotted to any one bidder. This is so that no one bidder could end up with a disproportionate share of the total amount of bills on offer.

The decision to limit tenders only to *recognised dealers* had evolved out of a number of considerations. One, as mentioned earlier, is to ensure that the number of tenders would be manageable. Another important one is to minimise the risk of default in payment, since there is not yet in place a clearing and depository system based on delivery against payment (which would require real time gross settlement). Yet another consideration is the ease of operations, since recognised dealers would already have pre-existing accounts with one of the settlement banks, which would also help keep down administrative costs. Finally, in view of the one-day lag between the announcement of award of tenders and the actual issue of bills, limiting the tender only to recognised dealers would also reduce the risk of refusal to take up by "unrecognised" subscribers.

At the inception of the programme, 108 recognised dealers were selected based on the following criteria: (i) adequate capital to support the risks (interest rate, settlement and credit risks) involved in participating in the programme; (ii) adequate knowledge, experience, integrity and reputation in the local financial market, and adequate internal control and accounting systems; (iii) good credit standing; (iv) already subject to adequate prudential supervision including satisfaction of capital

Chart 5

Outstanding Amount and Turnover of Exchange Fund Bills and Notes



adequacy tests of the HKMA; and (v) agree to observe market regulations as prescribed, supply relevant statistics to HKMA[3], give timely instructions to HKMA for transfer of bills and allow HKMA to inspect its books.

Essentially all licensed banks and restricted licensed banks would normally qualify, while deposit-taking companies would qualify if they are bank-owned or have a paid-up capital of not less than HK$100 mn. Securities dealers could also apply, and would be subject to the same selection criteria, in addition to which their corresponding prudential supervisor, the Securities and Futures Commission (SFC) or Stock Exchange of Hong Kong, would be consulted.

Development of the Secondary Market. In order to promote a liquid secondary market, the HKMA strives to create a favourable environment for market makers. To that end, the HKMA only engages in secondary market trading with them. Also, the HKMA will make a bid to market makers for any bills they may offer, at a price which is related to the market prices of the relevant bills and not at any specified rediscount rate. In addition, the HKMA acts as the last resort supplier and lender of Exchange Fund Bills to market makers. In this regard, the HKMA has the right to create additional bills to meet requests by market makers who cannot cover their short positions in the bills from the market. Since allowance of the shorting of bills greatly enhances liquidity in the secondary market, the HKMA covers short positions of market makers provided that they have an overall long position on all bills and notes. This condition was modified in May 1995 when the HKMA introduced the stipulation that it will only cover the short position of the market makers if the latter enter into a repo with it. Under this stipulation, the market maker sells to the HKMA its long position in a paper and receives from the HKMA the paper to cover its short position. The repo is reversed on the next trading day. Finally, the Exchange Fund announces the amounts of bills outstanding on a regular basis.

On their side, the market makers undertake to maintain the market in Exchange Fund Bills by quoting bid and offer prices during normal money market hours (between 9am to 12noon and 2pm to 4pm Monday to Friday). When a market maker does not have inventory for a particular issue, it will not be obliged to quote an offer price if the facility for additional issue of bills by the HKMA has been exhausted. But it will still be obliged to quote a bid price for the issue.

Market makers are appointed from those already selected to be recognised dealers, based on the criteria that they: (i) are reasonably active in dealing with other money market instruments and inter-bank money market; (ii) have the knowledge, experience, integrity and good reputation necessary for their intended responsibilities; (iii) have a good credit standing; (iv) represent a reasonable geographical spread by country of origin; (v) are active in the capital market; and (vi) preferably do not belong to the same banking group. At the inception of the Exchange Fund paper programme, 14 market makers were appointed. The number has since been increased to 32.

Payment and Settlement

The paperless book-entry form was chosen over having the bills being printed, for several reasons. It eliminates the security problems associated with bills in a physical form as the latter are more susceptible to fraudulent practices such as falsification of certificates. It avoids the costs of printing, storing and physical transactions of the bills. A paperless form facilitates secondary market trading, which should enhance the effectiveness of such bills as a monetary management tool. It also allows for a simpler and hence more economical computerised register and centralised settlement system to be operated. Finally, such a system could be more easily adapted to cater for the extension of the bill issues to longer-term securities. The US has been using the paperless form for treasury bills since 1968.

Other Issues

Taxation. Taxation is an important factor that affects bond market development. Hong Kong together with Malaysia and Thailand, has taken the lead among East Asian countries in removing tax disincentives on bonds, and in HK's case, on government bonds. From the inception stage,

3 Recognised dealers are required to maintain complete and comprehensive records of all Exchange Fund Bills transactions undertaken by them in the past three years.

Exchange Funds Bills have been exempt from all taxes (tax on interest income and tax on profits from sale of bills, and stamp duties), which actually give them a tax advantage over equities (since the latter is only exempt from dividend tax).

Risk Weighting. It was decided that in accordance with international practice, a 10 percent risk-weighting would be assigned to the Exchange Fund Bills and Notes for the purposes of assessing capital requirements for banks. This is consistent with the Basle framework[4] which had been adopted in Hong Kong.

Supervision and Regulation. The launching of the Exchange Fund paper programme did not bring with it additional supervisory issues since one of the pre-requisites of being a recognised dealer is that it is already being adequately supervised, by the HKMA in the case of authorised institutions, or by the SFC or Stock Exchange in the case of reputable securities brokers. In addition to regular prudential supervision by the HKMA, the recognised dealers also need to observe certain market regulations as announced by the HKMA from time to time. If they are found not to be observing these regulations, their recognised dealer status may be cancelled.

Training. Prior to the launch of the first batch of Exchange Fund Bills, the HKMA held seminars to explain to recognised dealers and market makers the rules and procedures of the bills market. It is important that as the debt market evolves and new products are introduced, both the government and the private sector develop training programmes for market participants, government regulators and other relevant regulators (such as securities commissions) to understand new financial instruments, trading mechanisms and procedures for clearance, settlement and safe-keeping of securities.

4 Specifically, the Basle Committee paper (July 1988) on capital convergence says " ..... to reflect the investment risk in holdings of fixed rate domestic government securities..... for the present, it was concluded that individual supervisory authorities should be free to apply either a zero or a low weight to claims on the domestic government (e.g. 10% for all securities or 10% for those maturing in under one year and 20% for one year and over)". In Hong Kong, a zero weight is not given, although there should be no credit risk, because of the market risk (due to interest rate fluctuations) involved.