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13 Singapore as a Financial Center: New Developments, Challenges, and Prospects

Ngiam Kee Jin

Since the late 1960s a number of international financial centers have emerged in Asia. These centers are major meeting places for internationally mobile funds. The rapid economic growth in many Asian countries combined with their various stages of economic development has increased the flow of funds across countries. This in turn has induced internationally renowned banks to establish branches in Asia to facilitate the cross-border flow of funds. Singapore has had a head start on other Asian centers as it was the first to allow a foreign bank to operate an offshore banking unit, as far back as 1968.[1] This unit, also known as the Asian Currency Unit (ACU) or the Asian Dollar Market, was created by removing the withholding tax on interest paid to nonresidents for the placement of foreign currency deposits.[2] Since then, other banks in Singapore have followed suit by setting up their own ACUs. Like Singapore, Hong Kong has gradually evolved into an international financial center. The transformation of Hong Kong gained momentum after 1978 when the government lifted its moratorium on the issuance of new banking licenses. In 1986, Tokyo set itself up as a global financial center with the establishment of the Japan Offshore Market. Other latecomers in international financial markets are Taipei, Bangkok, and Labuan.

Singapore is currently a major financial center, serving not only its domestic economy but also its region and beyond. The financial services provided by Singapore have contributed significantly to its economic development. Over

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1. The unit was operated by the Bank of America.

2. It was only five years later, in January 1973, that the tax on bank profits from the ACUs was cut from 40 to 10 percent.

the past seven years, the financial sector has been the best-performing sector of the economy, averaging 20 percent growth per annum, or twice the annual rate of growth of the entire economy. In 1993, the financial sector grew at 20.8 percent compared with 9.9 percent for the whole economy. Today, financial and business services contribute about one-quarter of the country's gross domestic product. They now constitute a larger sector of the economy than the manufacturing industry. The outlook and future role of Singapore as an international financial center are subjects of great interest.

This paper is organized as follows: Section 13.1 analyzes the major developments in the Singapore financial scene in recent years. Section 13.2 addresses the challenges from the other financial centers in Asia, especially Hong Kong and Tokyo. Section 13.3 provides the outlook and future directions for Singapore as an international financial center. Finally, section 13.4 gives the conclusions.

13.1 Recent Developments in Singapore Financial Markets

The role of Singapore financial markets as a conduit for the international flow of funds is shown schematically in figure 13.1. Global funds can be channeled through Singapore via either of two routes: direct finance and indirect finance. In indirect finance, lenders and borrowers go through the Asian Dollar Market with the ACUs acting as intermediaries. A financial institution operating in the Asian Dollar Market must maintain an ACU separate from its domestic banking unit (DBU). The ACU of a bank deals only with claims denominated in non-Singapore currencies and does not need to maintain any reserves against deposits. In contrast, the DBU of a bank deals mainly with deposits and loans denominated in Singapore dollars and has to observe cash and liquid reserve requirements.[3] In direct finance, borrowers obtain funds directly in financial markets by selling claims (equities, Asian commercial paper, or Asian dollar bonds) to lenders. The role of the foreign exchange market and the Singapore International Monetary Exchange is basically to bind together the various segments of the Asian Dollar Market—Eurodollar, Euroyen, Euromark, and so forth.

Recognizing the importance of financial services as an independent growth area, various measures were undertaken in the 1970s and 1980s to turn Singapore into an international financial center. Listed below are some of the concrete steps toward deregulation and liberalization:[4]

September 1970	Policy toward admission of foreign banks is liberalized.
July 1972	Cartel system for fixing exchange rates is abolished.

3. Currently, the minimum cash balance and liquid assets ratio are 6 and 18 percent, respectively, of the bank's liabilities base.

4. For more details, see MAS (1989).

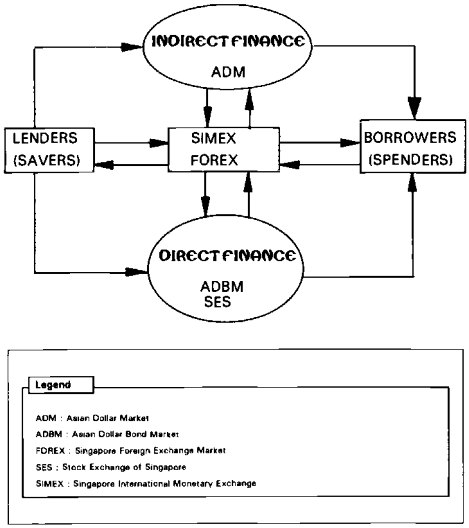

Fig. 13.1 Flow of international funds through the Singapore financial system

July 1973	Floating of the Singapore dollar is instituted.
August 1973	Dealings in the gold market are completely liberalized.
July 1975	Cartel system for fixing interest rates is abolished.
June 1978	Exchange control is completely liberalized.
March 1987	The stockbroking industry is opened to local banks and foreign financial institutions.

Certain regulations are still vigorously enforced by the authorities. The opposition of the Monetary Authority of Singapore (MAS) to the internationalization of the Singapore dollar (through limits on lending overseas and borrowing by nonresidents) is perhaps the most controversial.[5] This regulation has been defended on the grounds that internationalization would render the conduct of monetary policy more difficult. The cost is that domestic money and capital markets in Singapore will not be fully developed. Prior to 1980, Japan similarly had opposed the internationalization of the yen.[6] However, as both domestic and international pressure increased to open Japan's capital markets, the Bank of Japan withdrew its opposition. The large growth of Japanese capital markets in the past decade and the rapid progress made in liberalization has resulted in wider use of the yen in international transactions. Nothing thus far has occurred that would support the fear that Japan would lose control of its money supply.

5. Other controversial regulations include the restrictive trading rules of the Stock Exchange of Singapore, discussed in section 13.3.
6. For a discussion of the internationalization of the yen in the carly 1980s, see Frankel (1984).

13.1.1 Asian Dollar Market

Much of Singapore's growth as an international financial center in the early years resulted from the rapid growth of its Asian Dollar Market (ADM), which is the Asian counterpart of the Eurodollar market, rather than from the growth of its domestic financial system. The ADM is essentially an international money and capital market in foreign currencies. The major currencies are the U.S. dollar, deutsche mark, yen, pound sterling, and Swiss franc. Since its inception in 1968, the growth rate of the ADM has been phenomenal, as illustrated in figure 13.2. Its current size, as is evident from the value of assets in the ACUs, has dwarfed that of other banking and financial institutions. As shown in table 13.1, the ACUs accounted for 66.2 percent of total assets of the financial sector in 1993. This is an enormous jump from the 0.1 percent accounted for by the first ACU during its first year of operation. Commercial banking activities, while increasing absolutely, constituted only 18.3 percent of banking activities in 1993. It is clear that the financial sector has been transformed from a predominantly domestic operation conducted mainly through commercial banks into a global financial market channeled through ACUs.

The characteristics of ACUs have undergone some significant changes over the years. As shown in table 13.2, the share of funds going to nonbank customers rose to 35.4 percent in 1992 from 25.3 percent in 1976.[7] The share of interbank lending, while still dominant, declined from 72.7 percent in 1976 to 55.5 percent in 1992. The composition of the sources of funds has remained relatively constant, although deposits of nonbank customers have increased marginally at the expense of interbank deposits.[8] Interbank deposits predominate, accounting for 80.0 percent of total funds in 1992. Most of these interbank deposits come from outside Singapore.

Although statistics on the sources and uses of ACU funds by country or region are confidential, a few salient features can be deduced from published works. According to Bryant (1989), Singapore was a net creditor to the rest of the world as it had a positive net claim (total external assets exceeding total external liabilities) against all other countries. Singapore has always been a net creditor to the other Asia-Pacific region economies (including Hong Kong) but a net debtor vis-à-vis Europe and the Middle East. With the rapid development in the Asia-Pacific region in recent years, Singapore might have played an even larger role as a net creditor to China and the ASEAN countries since 1987. In its first annual report, in 1993, the Hong Kong Monetary Authority reported that the colony borrowed some S$24 billion from Singapore in 1993 compared with about S$20 billion in 1992. One factor might be that Singapore residents were placing their funds in Hong Kong rather than Singapore to avoid paying

7. Nonbank borrowers include multinational corporations, Singapore companies, and foreign governments.

8. Nonbank depositors include nonresident private individuals, multinational corporations, and regional central banks.

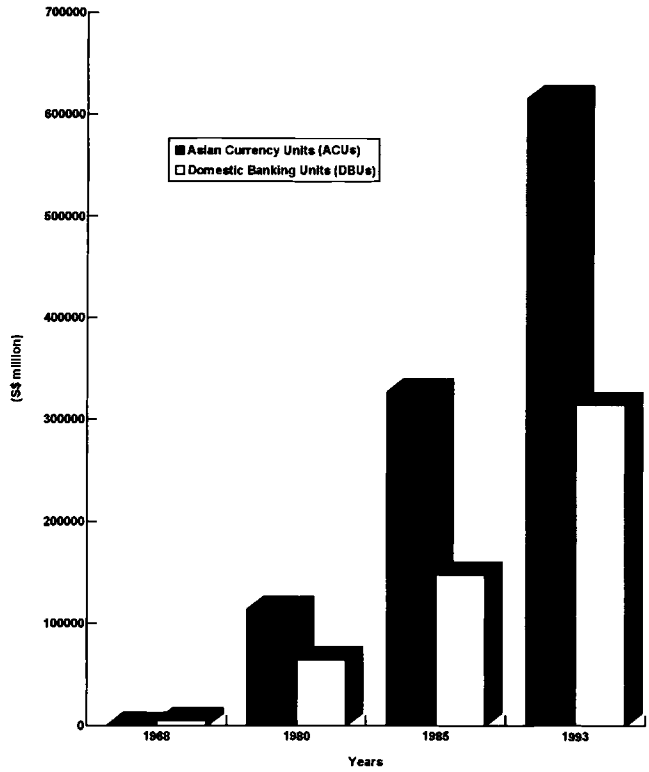

Fig. 13.2 Growth of the financial sector in Singapore (ACU and DBU assets)
Source: Annual Report (Singapore: MAS, various issues).

Table 13.1 Total Assets of the Financial Sector (million Singapore dollars)

Assets	1968	1980	1985	1993
ACUs[a]	60 (0.1)	113,870 (64.5)	327,062 (68.9)	616,143 (66.2)
Commercial banks	3,674 (74.2)	33,316 (18.4)	70,618 (14.9)	170,250 (18.3)
Merchant banks	–	13,300 (7.4)	28,207 (5.9)	42,205 (4.5)
POSB	43 (0.1)	2,757 (1.5)	9,193 (1.9)	20,310 (2.2)
CPF	540 (10.9)	9,551 (5.3)	26,834 (5.7)	52,334 (5.6)
Discount houses	–	950 (0.5)	2,469 (0.5)	–
Finance companies	431 (8.7)	3,075 (1.7)	6,936 (1.5)	14,994 (1.6)
Insurance companies	199 (4.0)	1,242 (0.7)	3,527 (0.7)	14,470 (1.6)
Total	4,947 (100)	178,061 (100)	474,846 (100)	930,706 (100)

Source: Annual Report (Singapore: MAS, various issues).

Note: Numbers in parentheses are percentages.

[a]The figures for ACUs are converted from U.S. dollars to Singapore dollars using the yearly average exchange rate given in the MAS *Annual Reports*.

Table 13.2 Uses and Sources of ACU Funds (%)

	1976	1980	1985	1990	1992
Total assets (million U.S.$)	17,354.1	54,392.6	155,374.2	390,395.5	355,378.6
Uses of funds					
Total assets	100.0	100.0	100.0	100.0	100.0
1. Loans to nonbank customers	25.3	22.8	24.1	32.2	35.4
2. Interbank funds	72.7	72.7	67.5	61.3	55.5
a. Within Singapore	19.4	20.3	20.4	11.1	11.5
b. Outside Singapore	53.3	52.4	47.2	50.2	44.0
3. Other assets	2.0	4.5	8.4	6.6	9.1
Sources of funds					
Total liabilities	100.0	100.0	100.0	100.0	100.0
1. Deposits of nonbank customers	11.3	17.0	18.0	17.1	16.2
2. Interbank funds	86.8	75.2	77.3	79.3	80.0
a. Within Singapore	21.6	20.7	20.1	11.9	13.0
b. Outside Singapore	65.2	54.5	57.2	67.4	67.0
3. Other liabilities	1.9	7.8	4.7	3.6	3.8

Source: Annual Report (Singapore: MAS, various issues).

taxes on interest income.[9] The other reason could be that Singapore was an important funding center while Hong Kong was a major loan syndication center.

As in the London market, ACU transactions (including loans and deposits) are typically short-term and are pegged to the Singapore Interbank Offered Rate (SIBOR).[10] As shown in table 13.3, transactions with maturity of less than one month constitute the largest categories of both assets and liabilities. In 1992, about 20 percent of the ACU loans have maturity of more than one year, up from 16.7 percent in 1976. The trend toward longer maturity in loans may reflect the increased importance of medium-term syndicated loans. In contrast, the maturity structure of ACU deposits remained quite stable over the years, with deposits of longer than one year accounting for only 3–5 percent of the liabilities.

13.1.2 Asian Dollar Bond Market

The Asian dollar bond market began in 1971 with the issue of U.S.$10 million by the Development Bank of Singapore. To encourage its development, the stamp duty on Asian dollar bonds was abolished in April 1980. Since then,

9. Nonbank deposits in Hong Kong rose rapidly after 1982 when Hong Kong exempted nonresidents from the withholding tax on deposits.

10. Nowadays, banks seldom quote the London Interbank Offered Rate (LIBOR). With the globalization of financial markets, there should be no difference between LIBOR and SIBOR.

Table 13.3 **Maturity Structure of ACU Assets and Liabilities (%)**

	1976	1980	1985	1990	1992
Maturity of Assets					
Total assets	100.0	100.0	100.0	100.0	100.0
Less than 1 month	35.1	32.6	40.8	39.5	40.4
1–3 months	27.3	26.8	21.8	26.2	22.4
3–12 months	20.9	21.6	18.5	17.3	18.0
Over 12 months	16.7	19.0	18.9	17.0	19.2
Maturity of Liabilities					
Total liabilities	100.0	100.0	100.0	100.0	100.0
Less than 1 month	49.2	44.4	52.5	52.4	56.4
1–3 months	28.0	30.1	26.1	26.8	26.2
3–12 months	19.4	20.5	18.3	15.7	14.3
Over 12 months	3.4	5.0	3.1	5.1	3.1

Source: Annual Report (Singapore: MAS, various issues).

Table 13.4 **Asian Dollar Bond Issues (million U.S. dollars)**

Year	Number of Asian Dollar Bond Issues	New Issues in Asian Dollar Bond Market (A)	New International Bond Issues (B)	(A)/(B)
1971	1	10	7,110	.001
1972	2	51	11,320	.005
1973	3	70	9,910	.007
1974	0	0	12,310	0
1975	3	47	22,820	.002
1976	9	266	34,310	.008
1977	14	368	36,090	.010
1978	12	403	37,480	.011
1979	8	358	37,330	.010
1980	18	659	39,400	.016
1981	22	1,238	49,000	.025
1982	16	1,018	71,700	.014
1983	16	1,145	72,000	.016
1984	8	864	108,400	.008
1985	4	235	164,500	.002
1986	15	785	221,700	.001
1987	18	1,482	177,000	.008
1988	12	1,273	226,300	.006
1989	18	3,500	262,800	.013
1990	5	300	241,400	.001
1991	6	749	316,700	.002
1992	12	965	n.a.	
Total	222	15,786	2,159,580	.007

Source: Annual Report (Basel: BIS, various issues).

the market has grown rapidly, although the level of activity fluctuates from year to year as can be seen in table 13.4. At the end of 1992, 222 issues had been floated, totaling some U.S.$15.8 billion. Most of the borrowers were from outside Singapore and comprise banks, multinational corporations, and government. As in the Eurobond market, most of the Asian dollar bonds are denominated in U.S. dollars. Other currencies include the yen, Australian dollar, deutsche mark, and European Currency Unit (ECU). In addition to straight fixed-rate issues, floating-rate notes, convertible bonds, and bonds with warrants are issued in the Asian dollar bond market. Despite its impressive growth, it still forms less than 1 percent of the international bond market.[11]

In recent years, Singapore has played an important role in the region for raising funds for infrastructural and capital development (see MAS 1992, 48). The growth in regional demand for funds has also been reflected in higher syndicated loan and "dragon bond" activity in the Singapore capital market. In 1992, a record 112 applications, amounting to U.S.$6.8 billion, were approved under the tax exemption scheme for syndicated offshore credit and underwriting facilities. Almost all the syndicated facilities raised were denominated in U.S. dollars. In addition, Singapore banks have played an active role as lead managers for the launching of dragon bonds, which are debt instruments issued in Asia but outside Japan. These bonds are listed in at least two of the three regional centers—Singapore, Hong Kong, and Taiwan. Since the launch of the first dragon bond by the Asian Development Bank in November 1991, 12 more issues (with one issue from China) have been launched. The outstanding amount in the dragon bond market now stands at more than U.S.$3 billion.

13.1.3 Foreign Exchange Market

The development of the foreign exchange (forex) market in Singapore can be traced back to the abolition of all foreign exchange controls in 1978.[12] Further impetus to the market was given by the entry of new foreign banks and international money brokers into Singapore.[13] It was also helped by deregulatory measures taken by Japan in 1984 and 1985 that had the effect of increasing foreign exchange transactions in Japan and elsewhere.[14] As shown in figure 13.3, the market has expanded nearly sevenfold, from a daily turnover of around U.S.$12 billion in 1985 to about U.S.$81 billion in 1992. Growth accelerated after 1985. As a result, Singapore is currently ranked fourth in terms of average daily foreign exchange turnover, after London, New York, and Tokyo.[15]

11. The international bond markets consist of two broad groups: foreign bonds and Eurobonds.

12. In June 1978, residents were finally allowed to borrow and lend freely in all currencies as well as deal freely in foreign exchange.

13. Currently, there are 115 foreign banks with either full, restricted, or offshore banking licenses. Eight international money brokers now operate in Singapore.

14. In 1984, Japanese dealers were allowed to make forward contracts freely and to deal with any parties outside Japan. In 1985, direct interbank dealings among banks in Japan were allowed.

15. The ranking was done in 1992 by the Bank for International Settlements (BIS).

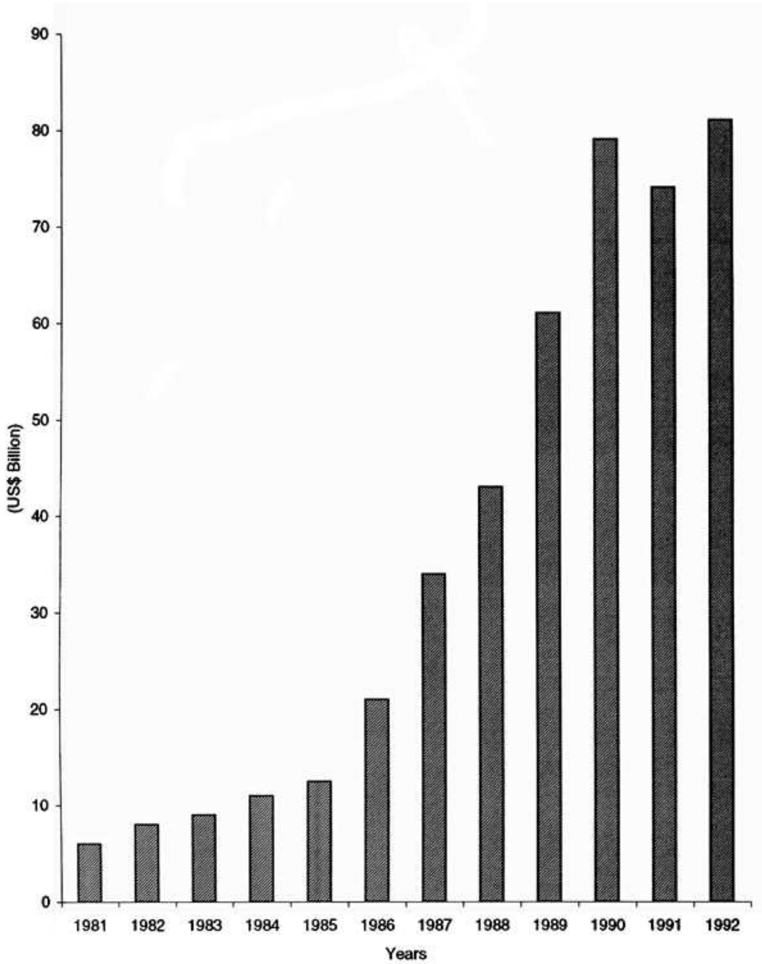

Fig. 13.3 Average daily foreign exchange turnover in Singapore
Source: Annual Report (Singapore: MAS, various issues).

A major characteristic of Singapore's forex market is that it deals almost exclusively in U.S. dollars rather than Singapore dollars against all major currencies. This is not surprising, especially in view of its close link with the ADM and the MAS's desire to discourage the internationalization of the Singapore dollar. In 1990, U.S. dollar–deutsche mark and U.S. dollar–yen transactions accounted for 31 and 29 percent of total transactions, respectively.[16] The share of Singapore-U.S. dollar tradings was only 5 percent. In recent years, both the swap and forward markets have been growing faster than the spot

16. These are the latest statistics.

market, although spot market transactions still account for over half of forex business.[17] In addition, cross-currency trading of the yen, deutsche mark, and British pound as well as trading of regional currencies (e.g., the Singapore dollar, Malaysian ringgit, Thai baht, and Indonesian rupiah) has become more active in the Singapore market.

13.1.4 Singapore International Monetary Exchange

Since its formation in 1984, the Singapore International Monetary Exchange (SIMEX) has grown to become one of the major futures and options exchanges in the world.[18] In recognition of its achievements, SIMEX was named the International Exchange of the Year by the *International Financing Review* three times (1989, 1992, and 1993). As of March 1993, SIMEX offered a total of 16 futures and options contracts, which makes it the most diversified international futures and options exchange in Asia. The products it offers can be grouped as in table 13.5.

The trading volume on SIMEX has grown spectacularly from only 538,829 contracts in 1985 to about 12.2 million contracts in 1992, as shown in figure 13.4. The greatest increase occurred in 1992 when SIMEX's trading volume soared by about 100 percent over the previous year. The most active contracts in 1992 were the Eurodollar futures (46.1 percent), Nikkei futures (27.5 percent), and Euroyen futures (20.4 percent). Among the interest rate futures contracts on SIMEX, only the Euromark futures contract is inactive. Since an active interest rate futures market is important for the development of the ADM, SIMEX should take appropriate measures to improve the liquidity of the Euromark futures contract. Perhaps, a linkup in the form of a Mutual Offset System with either the London International Financial Futures Exchange (LIFFE) or Marché à Terme International de France (MATIF), which trade in Euromark futures, might boost the trading of this contract on SIMEX. Currently, four contracts—based on Eurodollar, deutsche mark, yen, and British pound futures—are traded on the SIMEX-CME (Chicago Mercantile Exchange) Mutual Offset System, established in 1984 as the first such system between two exchanges in the world. This innovative system, which straddles two time zones, allows trades initiated on either exchange to be liquidated in or transferred to the other.

13.1.5 Stock Exchange of Singapore

One of the most significant developments in equity markets in the 1980s was the growing trend toward the trading of equities across frontiers. Singapore is no exception, as the Stock Exchange of Singapore (SES) started secondary listings of foreign shares in the late 1980s. As a result, the total market capital-

17. Over-the-counter currency options trading is well developed in London but still in its infancy in Singapore.
18. SIMEX is still ranked seventeenth in the world in terms of volume of business.

Table 13.5 SIMEX Products (as of March 1993)

Product Category	Futures Contracts	Options Contracts
Interest rate	Eurodollar (1984)	Eurodollar (1987)
	Euroyen (1989)	Euroyen (1990)
	Euromark (1990)	
Currency	Yen (1984)	Yen (1987)
	Deutsche mark (1984)	Deutsche mark (1987)
	British pound (1986)	
Stock index	Nikkei (1986)	Nikkei (1992)
	MSCI HK[a] (1993)	
Commodity	HSFO[b] (1989)	
	Gasoil (1991)	
	Gold (1984)	

Note: Year in which contract was introduced is given in parentheses.
[a]Morgan Stanley Capital International Hong Kong index.
[b]High-sulfur fuel oil future.

ization on the main board of the SES has been increasing, as can be seen in figure 13.5.[19] By 1992, it reached S$99.2 billion, which represented 1.3 times the size of Singapore's GNP.[20] Foreign counters accounted for only about 20 percent of total market capitalization over the period 1988–92.

All secondary listings of foreign stocks other than Malaysian stocks on the SES are denominated in non-Singapore currencies. Malaysian stocks traded on the SES are allowed to be denominated in Singapore dollars. Recently, the SES has been actively encouraging the listing of Singapore depository receipts (SDRs), which are the local equivalent of American depository receipts (ADRs).[21] This move is designed to increase the breadth of stocks available on the SES and to promote it as a regional securities market. However, except for the Malaysian and a few non-Malaysian foreign counters, the trading of secondary listings on the SES is practically nonexistent. In contrast, shares of local companies listed on the SES are actively traded, which can be attributed to a number of measures taken by the authorities to help Singaporeans own shares of Singapore companies. The euphoria created by the biggest privatization issue of Singapore Telecom, the liberalization of the CPF Investment

19. Companies on the main board are larger companies, while those listed on the second board, Sesdaq, are smaller. In 1990, the SES introduced an over-the-counter market, known as CLOB International, to allow investors to trade in a number of foreign securities listed on foreign stock exchanges.

20. The figures for 1993 look even more impressive as the public issues of shares (excluding rights issues and private placements of listed shares) amounted to a record S$6.84 billion. Singapore Telecom accounted for about 60 percent of total funds raised.

21. PT Gadjah Tunggal, an Indonesian manufacturing firm, was the first to list its SDRs on CLOB International in 1992. The latest to list its SDRs is Daimler-Benz, Germany's largest industrial conglomerate.

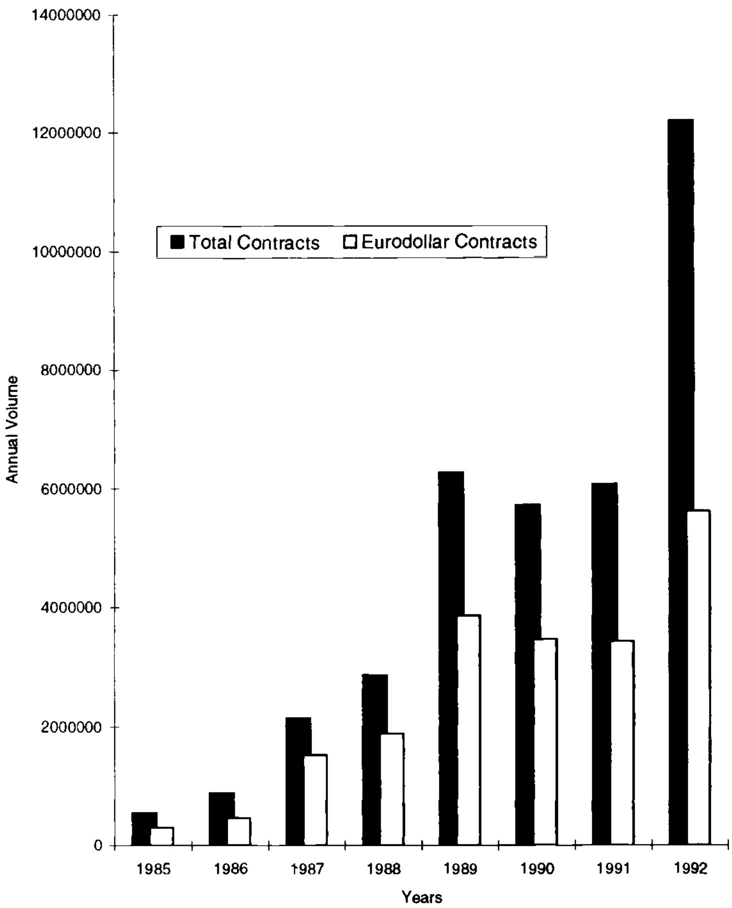

Fig. 13.4 Annual turnover on SIMEX (total and Eurodollar contracts)
Source: Annual Report (Singapore: SIMEX, various issues).

Scheme, and the unprecedented bull run in 1993 attracted many small investors to the local stockmarket.[22] The SES was capable of handling such a huge volume of trade mainly because it had implemented a scripless trading system.[23]

In recent years, the SES has been following the worldwide trend by allowing greater use of equity derivatives such as warrants, covered warrants, convertible bonds, and stock options. Currently, there are 37 warrants and only 2 covered warrants listed on the SES. The trading of warrants is significantly more

22. According to the latest survey conducted by the SES, in 1991 Singaporeans held 89.9 percent of the shares listed on the local bourse.

23. The use of automated teller machines to purchase initial public offerings has helped to speed up the whole process of raising equity capital in Singapore.

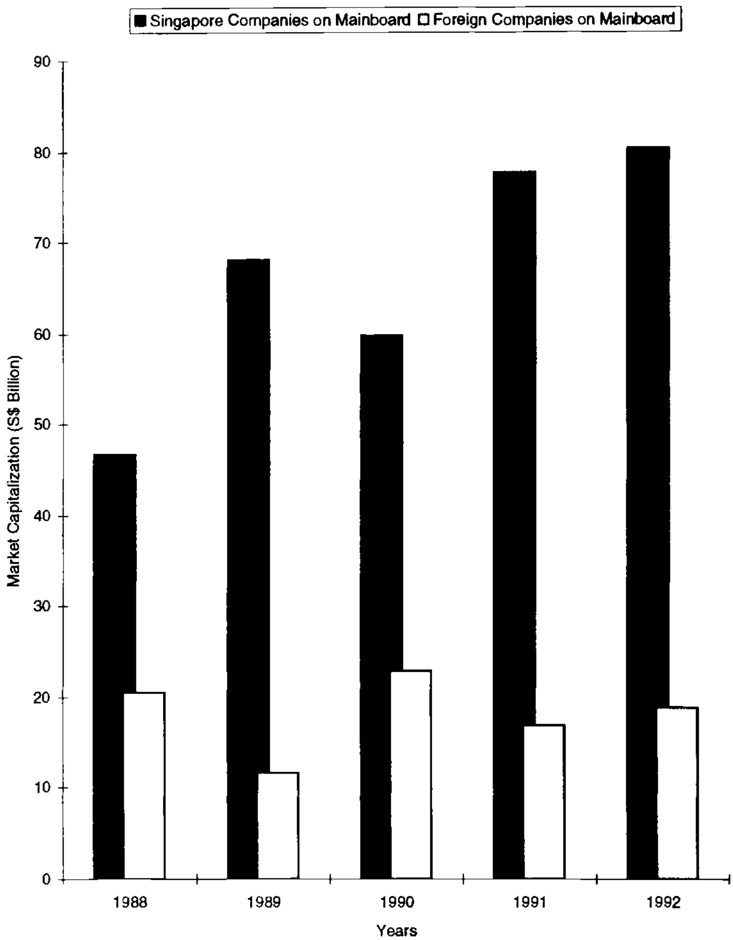

Fig. 13.5 Market capitalization in the Singapore stock market
Source: SES Journal (May 1993).

active than the trading of covered warrants because under existing SES regulations warrants can be traded by any investor whereas covered warrants can be traded only by certain investors.[24] The trading of stock options made its reappearance on the SES in March 1993.[25] By the end of that year, options on four local stocks were traded. However, the volume of trade in these options is still very anemic.

24. Apart from financial institutions, only investors with net assets of S$5 million or an annual income of S$200,000 are allowed to trade in covered warrants.

25. The SES started stock option trading in 1977 but terminated it in early 1980 because of lack of interest.

13.2 Challenges Facing Singapore as a Financial Center

Singapore has earned its reputation as Asia's financial center by building four strong, tightly integrated "pillars." First, it has already established its position as a sophisticated offshore banking center that meets the increasing demand for loans to the rapidly expanding Asian countries by borrowing from outside Asia as well as from neighboring countries. In particular, Singapore is well known as the home of the ADM. Second, it has overtaken Switzerland to become the fourth-largest foreign exchange center in the world. Third, SIMEX has set up dynamic derivative markets that thrive principally on instruments traded in the ADM and foreign exchange market. Fourth, the SES, which is probably the weakest of the four pillars, has recently taken some major initiatives to establish Singapore as a hub for the region's securities business. The challenge for Singapore is to strengthen all four pillars in order to enhance its role as an international financial center.

13.2.1 Pillar 1: Asian Dollar Market

Singapore's position as the home of the ADM has been vigorously challenged in recent years by many centers in Asia, particularly Hong Kong and Japan. The external environment facing Singapore changed dramatically during the 1980s, as evidenced by the establishment of the Japan Offshore Market (JOM) in 1986, the signing of the Sino-British Joint Declaration in September 1984, and the emergence of China as an economic superpower in the latter half of the 1980s. The favorable conditions prevailing in northeast Asia have resulted in much faster growth of the offshore markets in both Hong Kong and Japan than in Singapore, as can be seen in figure 13.6. In 1986, Hong Kong overtook Singapore in terms of the size of the ADM and the Asian Dollar Bond issues. With the establishment of the JOM, Hong Kong has enjoyed a tremendous growth in transactions with Japan, especially in Euroyen interbank transactions. China's insatiable demand for funds to fuel its development should lead to more loans from Hong Kong to nonbank customers in China. However, Hong Kong's return to China in 1997 is still a cloud on the horizon. How Hong Kong will fare as a financial center depends very much on how China reestablishes its relationship with the outside world as well as on how the Sino-British Joint Declaration is carried out.

Currently, Hong Kong and Singapore are regarded as two of the major offshore centers in Asia. Despite the large size of the JOM, Tokyo does not seem to enjoy the same status. Singapore is popularly known as the "funding center" and Hong Kong as the "lending center". With positive encouragement from its government, Singapore has also emerged as an important center for loan syndication.[26] In the Singapore market, developed under the close supervision of the MAS, there is a clear distinction between domestic and offshore transactions in order to insulate the domestic financial market from outside distur-

26. In 1983, ACUs were granted a 10-year tax holiday for all income derived from syndicated offshore loans arranged in Singapore.

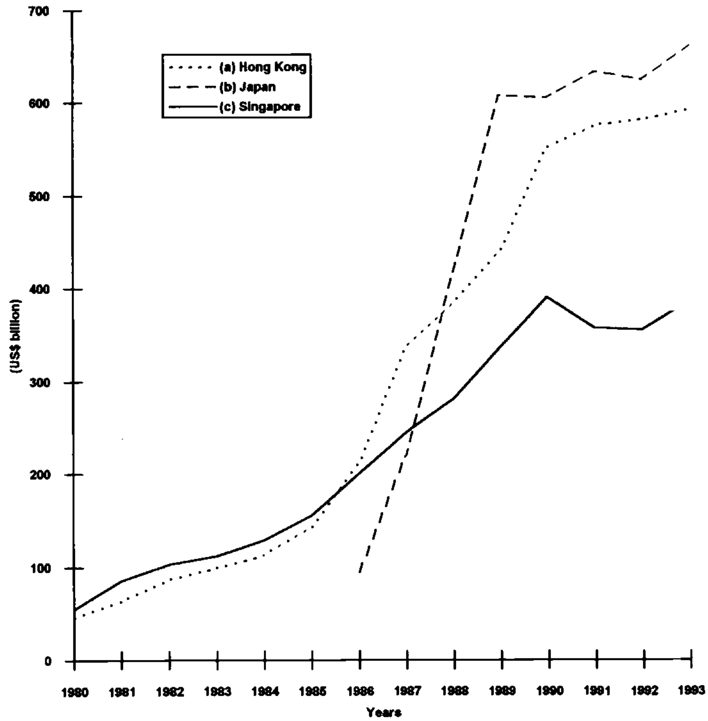

Fig. 13.6 Size of major offshore markets in Asia
Sources: (a) *Monthly Digest of Statistics* (Hong Kong: Census and Statistics Department, various issues); (b) *Monthly Bulletin* (Tokyo: Bank of Japan, various issues); (c) *Annual Report* (Singapore: MAS, various issues).

bances. The profits from offshore banking are taxed at a concessionary rate of 10 percent as opposed to the 27 percent tax on profits from domestic banking. In contrast, Hong Kong, which has until recently followed a laissez-faire policy,[27] has no separation between offshore and domestic banking businesses. In Hong Kong, all profits, whether from domestic or offshore business, are currently subject to a 16.5 percent tax.[28] In this sense, Hong Kong is not a typical offshore market.

With its enormous economic and financial strength, Tokyo should be the natural financial center of the Asia-Pacific region. Within two years of its establishment in 1986, the JOM overtook Singapore and now occupies the world's number-two spot behind London. The JOM may have caused a slowdown in the growth of Singapore's offshore market, but the Singapore foreign exchange

27. Departing from its traditional laissez-faire principles, Hong Kong took measures to strengthen its financial institutions by introducing net worth ratio requirements (September 1988) and regulations on foreign exchange positions (July 1990).

28. The offshore banking profits of financial institutions were not taxed in Hong Kong until 1978.

market has certainly benefited from Japan's financial liberalization. In the long run, Japan should not be a threat to Singapore because Singapore has its own market niche, unless further deregulation takes place in the JOM.[29] Japan has a comparative advantage in long-term financing, especially in fulfilling China's financial needs, while Singapore's advantage lies in short- to medium-term financing for Southeast Asia. Barring serious political uncertainties, Hong Kong should remain unchallenged in short- to medium-term financing to northeast Asia, including China.

13.2.2 Pillar 2: Foreign Exchange Market

In recent years, Singapore has consolidated its position as an active and liquid forex center apart from its already established reputation as a major ADM. Although Singapore is currently the world's fourth largest forex trading center, with an average daily turnover of over U.S.$80 billion, it is still a long way behind London, New York, and Tokyo. However, as shown in figure 13.7, Singapore and Hong Kong are slowly chipping away at Tokyo's position as Asia's top forex center. The volume on the Tokyo market has hardly increased since the bubble economy years in Japan ended in 1990, despite the fact that the world's forex turnover jumped by some 45 percent between 1989 and 1992. Meanwhile, the daily forex turnover in Singapore increased by 40 percent and in Hong Kong by 22 percent over the same period. Japan's protracted recession coupled with the booming economies in other parts of Asia are increasingly inducing American and European banks to locate their forex operations in Singapore and Hong Kong.

Looking ahead, Singapore is likely to face keener competition from Hong Kong than from Tokyo. Unlike Tokyo, which is dominated by dollar-yen trading, business in both Singapore and Hong Kong is more diversified.[30] Moreover, the cost of doing banking business is lower in Singapore and Hong Kong than in Tokyo. In view of these factors, Singapore should continue to play a key forex role in Asia despite Tokyo's bigger forex market and its emergence as a world financial hub. To stay ahead of Hong Kong, Singapore must step up the trading of regional currencies and derivative products such as futures, forward rate agreements, interest rate swaps, and options.[31] It should have no difficulty in staying ahead in this game given its success in launching the SIMEX, ADM, and forex cash market.

29. Currently, the JOM has too many restrictions. Only nonresidents and overseas subsidiaries can deposit and borrow in the offshore market. Securities businesses are prohibited. Offshore accounts, while not subject to withholding tax, still incur stamp duties and municipal taxes. Moreover, offshore banking income still faces a stiff corporate tax rate of about 48 percent.

30. Japan's development is still lopsided as over 50 percent of the transactions in the JOM are denominated in yen.

31. On January 25, 1994, the *Business Times* reported that two major European banks—Crédit Suisse and Société Générale—had made Singapore their regional center for trading currency options.

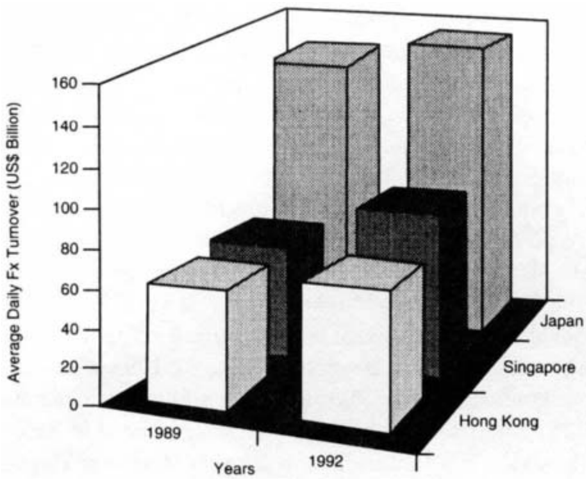

Fig. 13.7 Size of major forex markets in Asia
Source: Central Bank Survey of Foreign Exchange Market Activity (Basel: BIS, March 1993).

13.2.3 Pillar 3: Singapore International Monetary Exchange

After experiencing slow growth in its first decade of operation, SIMEX has become the fastest-growing futures and options exchange. SIMEX is now "Asia's one and only truly international derivative supermarket" (see International Financing Review 1993). However, its path to the top was not unobstructed as SIMEX had to face stiff competition from other exchanges and new technology developments such as Globex. The success of SIMEX in the face of these challenges is a testimony to its competitiveness, efficiency, and inventiveness.

Currently, there are 15 official financial and commodities futures exchanges in the Asia-Pacific region. Like SIMEX, most of these regional exchanges, such as the Sydney Futures Exchange (SFE), Tokyo International Financial Futures Exchange (TIFFE), Tokyo Stock Exchange (TSE), Osaka Stock Exchange (OSE), and Hong Kong Futures Exchange (HKFE), have enjoyed record trading volumes since 1988. These exchanges have been competing for a market share of the contracts traded at SIMEX.[32] For example, TIFFE trades in both Eurodollar futures and Euroyen futures, which are among the three most popular contracts traded at SIMEX. Nikkei 225 futures, the second most active contract on SIMEX, is traded at OSE.[33]

In March 1992, the Japanese authorities introduced several measures to curb derivatives trading, particularly index-linked arbitrage activity, which was be-

32. The only exception is the HSFO contract which is traded only at SIMEX.
33. SIMEX launched the Nikkei 225 in September 1986. Two years later, the OSE followed suit, and the TSE launched futures for the broader Tokyo Stock Price Index (Topix).

lieved to have caused greater price volatility of Japanese stocks. The measures include tightening rules on index futures and options, raising margin requirements, increasing brokerage commissions, shortening trading times, and forcing more disclosure of data on arbitrage. Even before the introduction of these new measures, SIMEX already had several advantages over the OSE. First, SIMEX has longer trading hours and conducts trading on public holidays. Second, brokers' commissions, margin requirements, and other charges at SIMEX are lower.[34] With the new Japanese measures, the daily volume for Nikkei futures in Osaka shrank to about 50,000 contracts from nearly 100,000 in 1991. In contrast, the daily volume for Nikkei futures on SIMEX rose to about 7,000 contracts from about 2,500 the year before (*Business Times* 1992). The rivalry between the two exchanges intensified in February 1994 when the OSE introduced another contract, Nikkei 300 stock index futures, to eventually replace the Nikkei 225 futures.[35] In response, SIMEX announced in June 1994 that it would launch Nikkei 300 futures later in the year (*Business Times* 1994).

SIMEX has adopted the open outcry system that is currently used in the major futures exchanges in the world. In fact, the top six futures exchanges in 1992 (which include three in the United States, one in the United Kingdom, one in France, and one in Brazil) use this system. The system's main drawback is that it can be abused by floor traders.[36] For instance, it can give rise to "syndicated trading," in which traders collude to widen spreads ahead of customer orders (see *Straits Times* 1993). The physical organization of open outcry trading, in which the exact time sequencing of all trades is not known ex post, makes it difficult for surveillance systems to detect any violations of rules. Trades executed during volatile market periods are especially susceptible to abuse. On the positive side, this system ensures that prices of futures contracts respond sensitively to relevant new information. Equilibrium prices are quickly established. Thus, the futures markets resemble closely the Walrasian auction system, in which no recontracting is allowed.

Globex, the Chicago-based electronic trading system, has emerged as an alternative to futures trades conducted through the open outcry system. Launched in mid-1992, the 24-hour trading that Globex offers could take some business away from the open outcry system. How much of SIMEX's business will eventually be diverted depends on whether Globex is able to provide uninterrupted service, security, and superior liquidity. Critics contend that it will never be able to give the liquidity that is provided by the open outcry system. Only time will tell. Globex trading is already taking place in the Asian time

34. E.g., in the case of calendar spreads (such as buying the March contract and simultaneously selling the June contract), charges are levied on both contracts at the OSE but on a netted basis at SIMEX.

35. While the Nikkei 225 represents the simple average of 225 component index stocks, the Nikkei 300 is a weighted index—based on market capitalization—which tracks the performance of 300 stocks listed on the TSE.

36. For a comprehensive treatment of the abuses, see General Accounting Office (1989).

zone as Globex terminals can be found in trading rooms in Tokyo and Hong Kong. However, Globex trading has thus far been very sluggish. For instance, the daily Eurodollar futures turnover by Globex is currently between 1,000 to 2,000 lots. In contrast, the daily average volume of Eurodollar futures on SIMEX was around 31,000 lots in February 1994.

SIMEX should continue to play a key role in enhancing Singapore's role as a financial center as long as it remains cost effective, responsive to market needs, and innovative in introducing new products. The new products it plans to offer should reinforce the other three pillars that give support to Singapore's position as a financial center. In this sense, SIMEX should concentrate on three core groups: interest rates, currencies, and stock indexes.[37] There is tremendous scope for SIMEX to introduce futures on long-term debt instruments, regional currencies, and regional stock indexes.[38] This is partly because the increasing deregulation of financial markets in this region should result in an enlarged customer base for SIMEX.

13.2.4 Pillar 4: Stock Exchange of Singapore

Once a major stock market in Southeast Asia, the SES has recently been dwarfed by its counterpart in Malaysia. Thailand is also catching up fast as an important stock market in the region. Table 13.6 shows that among the Asian economies outside Japan, Hong Kong occupies the top spot with a market capitalization of U.S.$293 billion, followed by Taiwan (U.S.$202 billion), Malaysia (U.S.$170 billion), South Korea (U.S.$139 billion), and Singapore (U.S.$125 billion). The SES is expected to raise U.S.$2.5 billion worth of new funds in 1994, which represents only 2.0 percent of its market capitalization. All the other regional markets listed, with the exception of the Philippines, are expected to raise more equity capital than Singapore in 1994.

With economies growing faster in Asia than in other parts of the world, capital markets in the region can be expected to experience strong growth with the tapping of foreign capital. Keen competition among regional exchanges to convince regional companies to use their markets to raise capital is expected to intensify. With its strategic location and excellent infrastructure, Singapore is well placed to act as a capital market for the ASEAN region. At the moment, Singapore has a head start in this regional game plan on at least three counts. First, the SES has already put in place a high-technology settlement system, which is essential for playing the role of a regional market. Second, Singapore has been recognized as a center for the listing and trading of foreign stocks. Third, the membership of the SES includes several foreign stockbroking firms

37. Perhaps the trading of commodity futures should be left to the newly created Singapore Commodity Exchange (SICOM), which currently trades only in rubber but will soon be launching Asia's first coffee contract.

38. Currently, SIMEX trades the Japanese government bond futures contract as well as in MSCI Hong Kong index futures, which mirror closely the widely watched Hang Seng index futures.

Table 13.6 Market Capitalization and Estimated New Issues in Asian Stock Markets (billion U.S. dollars)

Market	Market Capitalization in 1993	Expected New Issues in 1994	New Issues as Percentage of Market Capitalization
Hong Kong	293	8.1	2.8
Taiwan	202	5.1	2.5
Malaysia	170	4.0	2.4
South Korea	139	7.0	5.0
Singapore	125	2.5	2.0
Thailand	110	5.8	5.3
Philippines	35	2.0	5.7
Indonesia	28	3.5	12.5

Source: Salomon Brothers, as reported in the *Straits Times* (May 28, 1994).

that have helped raise the level of sophistication of the Singapore securities market.

While more counters and derivatives are certainly needed on the local bourse, the SES must simultaneously seek an active trading environment for securities that are already listed. To add depth to the local bourse, the SES should reassess brokerage fees and existing regulations, which might have discouraged trading in the Singapore market. Currently, brokerage fees in Singapore rank among the highest in the world. Singapore brokers impose graduated commission rates of between 0.5 (for transactions above S$1 million) and 1 percent (for transactions below S$250,000). This compares unfavorably with negotiable fees in London and a fixed 0.5 percent in Hong Kong.

While rules may, under certain circumstances, be needed to safeguard the interests of investors, they cannot be so strict that they stifle innovation and impede the growth of Singapore as a regional market. The requirement that foreign stocks other than Malaysian stocks listed on the SES be denominated in non-Singapore currency might have discouraged many local investors who would have to contend with foreign exchange risk. Another restrictive rule is that covered warrants on the SES can be traded only by financial institutions and individuals with high net worth. Covered warrants thrive in other financial centers, such as Hong Kong, mainly because there are no restrictions on their trading. Relaxing this rule can only enhance Singapore's regional role because it may pave the way for the introduction of covered warrants on regional stocks. Thus, unless remedial actions are taken, the inactivity of these securities can undermine Singapore's efforts to become a regional market, as foreign companies considering the SES may be discouraged from seeking secondary listings on the SES. Worse still, foreign companies now on the SES may be tempted to delist.

Any new instruments introduced by the SES should not only be in demand by investors but also help to consolidate Singapore's position as a center for securities business. In this respect, the SES or SIMEX should launch a futures contract on a local stock index and, at a later stage, a stock index options contract.[39] Hong Kong has been successful with the trading of futures and options on its Hang Seng index. By providing a useful hedging mechanism to investors, such futures and options contracts should make Singapore a more attractive place for investors and fund managers.[40] The task of underwriters of stocks would become easier and safer because they can use these derivative instruments to hedge the market risk.[41]

13.3 Prospects for Singapore as a Financial Center

The rapid developments in the Asia-Pacific region in the past decade greatly enhanced the importance of Singapore and Hong Kong as leading financial centers in Asia. These two city-states have benefited from the opening-up of China, the growing prosperity in the ASEAN economies, and the increased flow of funds from advanced countries (the United States, Japan, and Europe) to the Asia-Pacific region. Hong Kong has played a vital role as the gateway to China, and Singapore to ASEAN. As the ASEAN economies are expected to continue growing and to further liberalize their financial markets, there is tremendous scope for Singapore to play an even greater role as a major financial center. Although new financial centers in this region (Bangkok, Taipei, and Labuan) have been trying to secure a share of the offshore banking business, Singapore's position in the next decade should not be adversely affected as it still will have certain advantages, which include political stability, a well-developed infrastructure, a highly skilled workforce, and a strategic location. The challenge for Singapore is to maintain its competitive edge in the longer term.

The kind of financial services provided by Singapore may, however, undergo some changes in view of the changing external environment and the judicious effort Singapore has made to carve specific niches for itself. For example, ACU growth will probably be constrained on account of two external developments. First, banks throughout the world are required to adopt a common capital adequacy requirement,[42] which tends to favor the flow of funds through direct finance rather than indirect finance (see figure 13.1). Second, the other regional financial centers are providing direct competition to Singapore with attractive tax packages to boost their share of ACU business.[43]

However, Asia's booming economies coupled with their need to build mas-

39. Only stock index options rather than options on individual stocks can complete the market.

40. Since short selling is disallowed in Singapore, the only way an investor can hedge his stock portfolio is through the futures and options markets.

41. Because of the absence of a suitable hedging device in Singapore, underwriters can resort to a "force majeure" clause which allows them to withdraw their commitments under adverse market conditions.

42. Under BIS guidelines, banks are required to have capital equivalent to at least 8 percent of their assets.

43. Taiwan went even further than Singapore by granting tax exemption to bank profits from ACU business.

sive infrastructural and manufacturing projects will provide new opportunities for regional financial centers such as Hong Kong, Singapore, and Japan.[44] According to the Asian Development Bank, Asia's developing countries will grow by 7.2 percent in 1994 and 1995, while global growth will be only 1.8 percent in 1994 and 3 percent in 1995. Estimates of infrastructure spending in Asia seem to be clustered around U.S.$1.5 trillion over the next 10 years.[45] As a result, there will be an increase in demand for such services as fund raising, fund management, and risk management, which Singapore is well equipped to provide.

With the viability and depth of its financial markets, Singapore could play a particularly useful role in mobilizing the large amounts of funds required by the Asian countries. In this respect, the bond market in Singapore is likely to be the main beneficiary for two reasons. First, with its strategic location, Singapore will be an important supplier of funds through Asian dollar bonds to countries in Southeast Asia and the Indian subcontinent. Second, as China's needs may be too enormous for Hong Kong to meet, Singapore should enjoy a "spillover" effect because of its close link with China, especially at the governmental level. The development of industrial parks in China by the two governments should help strengthen existing ties between the two countries.[46] There is thus tremendous scope for Singapore to serve as the second gateway to China. After the successful launching of Singapore's dragon bonds worth U.S.$300 million in October 1993, China may increasingly turn to this source of finance for its major infrastructural projects.

However, Asia's companies may find Singapore an unattractive place to raise equity capital in view of the general lack of interest in the foreign (non-Malaysian) shares listed on the SES. The fact that such shares must be denominated in non-Singapore currency might have deterred many local investors, and probably some fund managers, from trading in them because they involve a currency risk in addition to the risk associated with equity investment. In contrast, Malaysian shares listed on the SES are actively traded partly because they are denominated in Singapore dollars.[47] Similarly, the H shares of Chinese state enterprises listed on the Hong Kong stock exchange, which are denominated in Hong Kong dollars, have a liquid market. Encouraged by the initial

44. Recently, the Singapore government took the lead by investing U.S.$250 million in the U.S.$1 billion AIG (American International Group) Asian Infrastructure Fund.

45. The Economic and Social Commission for Asia and the Pacific estimated that Asia will require approximately U.S.$140 billion per year to develop its infrastructure. The International Finance Corporation calculated that third-world nations will need about U.S.$150 billion annually for private infrastructure projects in the 1990s.

46. Currently, two joint ventures in China have been agreed upon. The Suzhou township will cover 70 sq. km. and is a 35:65 joint venture between the Suzhou government and a Singapore consortium led by the Keppel Group. The Wuxi Industrial Park, which will cover 1,000 hectares, is being developed by a 30:70 joint venture between the Wuxi government and a Singapore consortium led by the Singapore Technologies Industrial Corporation.

47. The other reason may be that Singaporeans are familiar with the Malaysian counters.

success of these H shares, more Chinese state enterprises will soon be listing their shares in Hong Kong.

After many years of official encouragement, Singapore has finally become a major fund management center like Switzerland and Hong Kong. Singapore has several attractions for the fund management industry. First, it is situated in a fast-growing region that should continue to attract funds from the United States and Europe for higher returns and diversification. Second, it has a thriving market for regional stocks, particularly Malaysian shares listed on the SES and Thai shares, which are unlisted.[48] Third, it provides a broad range of derivative products for fund managers to hedge their exposure in this region. SIMEX currently trades in futures and options on the Nikkei 225 as well as futures on the MSCI Hong Kong Index and will be expanding the range of derivative products to include other Asian equity index futures contracts. Fourth, it provides generous fiscal incentives whereby fees earned by approved fund managers are taxed at only 10 percent.[49] As a result, the amount of funds managed in Singapore has increased fivefold over the last four years. In 1993, the total pool of funds managed by the 82 approved fund managers in Singapore reached a record high of S$61.8 billion (see *Straits Times* 1994). Nevertheless, there is still scope for growth as this sum represents only a small fraction of the total funds handled by fund managers worldwide.[50]

Several measures taken by Singapore in recent years to increase the sophistication and diversity of its financial market should enhance its role as a risk management center. First, incentives are available for multinational corporations (MNCs), including banks, to set up operational headquarters (OHQ) in Singapore. Several MNCs with operations in the region have already used Singapore to carry out their regional treasury activities under the OHQ scheme.[51] Second, the introduction of derivatives of more regional debt and equity products should provide corporations with additional tools for managing their financial risk. Finally, the MAS has introduced tax incentives to encourage financial institutions to undertake financial engineering and financial R&D in Singapore.[52] Collectively, these measures are powerful attractions to ensure that Singapore will remain a leading center for risk management in the region.

48. The trading of unlisted regional stocks in Singapore amounted to some S$41.5 billion in 1993.

49. In addition, all income earned by nonresidents is exempt from tax.

50. The amount of funds invested in the Asia Pacific region, excluding Japan, is estimated at only 5 percent of the total funds managed by international fund managers.

51. Under this scheme, income derived from trading in foreign exchange, financial futures, and other treasury support activities conducted by an MNC for a group of companies in the region will be taxed at a concessionary rate of 10 percent.

52. Introduced in June 1992, the tax incentives are in the form of double tax deduction for qualifying expenses relating to the establishment and development of new skill and knowledge-intensive financial activities in Singapore.

13.4 Conclusions

Singapore has become a major financial center of international repute. Its foreign exchange market is now the fourth-largest and SIMEX is among the fastest-growing futures and options exchanges in the world. However, ACU business in Singapore has not been growing as rapidly as in Hong Kong and Tokyo. Looking ahead, ACU business, which is basically conventional banking service, will face greater competition from such emerging financial centers in the region as Taipei, Bangkok, and Labuan. However, with flexibility and innovativeness, Singapore should be able to face the challenges and stay ahead. Singapore's status will be similar to that of London, which continues to be the financial capital of Europe despite the development of Frankfurt and other cities.

The robust Asian economies coupled with the enormous financial requirements of their infrastructure and investment projects should provide a tremendous potential for the growth of the financial centers in the region. With its strategic location and well-developed financial market, Singapore is well poised to provide the more sophisticated financial services, particularly in fund-raising, fund management, and risk management. However, it must watch developments in other financial centers to ensure that it is not hamstrung by its own regulations. The most contentious regulation has always been the restriction on the issuance of Singapore dollar–denominated securities by foreigners or by Singaporeans who intend to use the proceeds outside Singapore. This restriction is supposed to prevent the internationalization of the Singapore dollar, which can have a destabilizing effect on the domestic money supply or exchange rate. The cost is that the domestic (or onshore) financial markets in Singapore will not be as fully developed as in, say, Switzerland, which has allowed the Swiss franc to be internationalized.

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Comment   Sang-Woo Nam

This paper provides a lot of factual information about the financial center of Singapore. I agree that a well-trained workforce together with accumulated expertise, credible supervisory capability, and political stability are the important advantages of Singapore as a financial center. I am also convinced that the Singapore financial market is likely to find a niche as a risk management and fund management center as well as a fund supplier through Asian dollar bonds to countries in Southeast Asia and the Indian subcontinent.

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My first comment is about the future of Singapore as a financial center. First of all, we cannot help comparing Singapore with Hong Kong. Hong Kong will continue to play the major role in taking care of the financing needs of northeast Asia, including China, Vietnam, and Korea, while Singapore will do more business with the ASEAN countries. Since the northeast Asian economies are likely to grow much faster than the ASEAN countries, the potential demand for financial services to be met by Hong Kong's financial center is also going to grow much faster than that for Singapore's. Although Singapore's financial center may aim to become "the second gateway" to China, this role may be limited.

Of course, the future of Hong Kong is uncertain. However, recent developments seem to indicate that this uncertainty has been substantially reduced, at least in the short and medium run. Two-way investment between Hong Kong and China is enormous, including real estate purchases. Their interests have been interlocked by taking each other hostage. In the long run, Shanghai or Hainan might share the role of Hong Kong as a financial center, which may not have any significant impact on the Singapore financial market.

In addition, deregulation in the Japan Offshore Market (JOM) will affect the growth of Singapore's financial center. As the author notes, the JOM is only for nonresidents, and securities businesses are prohibited. Furthermore, the tax burden on offshore accounts and offshore banking income in the JOM is fairly heavy. With continued progress in domestic financial liberalization in Japan, the JOM may see gradual deregulation in business boundaries and in other respects. This will tend to divert some business from Singapore and Hong Kong to the JOM.

My second comment concerns the long-run underlying trend for offshore financial activities in general. With continued financial liberalization, which relaxes many of the regulations on banking activities, and the global integration of financial markets where foreign banks operate in a much freer environment, local (onshore) banks are likely to absorb much of current offshore activities. Moreover, with the development of computers and telecommunication technologies, the physical location of an international financial center is not as important as it has been in the past. The gravity of a financial center is becoming functional rather than locational.

My final comment is related to the impact of increasing external capital flows on the macroeconomic stability of a country. With the liberalization of capital transactions and the introduction of the Asian Currency Unit market, Singapore must have faced increasing capital mobility. I wonder to what extent it undermined Singapore's monetary independence and macroeconomic stability. As a means of insulating the domestic financial market from outside disturbances, Singapore banks are required to make a clear distinction between domestic and offshore transactions. With transferrable deposit instruments and other innovations, the separation might have been incomplete. The experience of Singapore with capital account liberalization might provide a valuable lesson for other countries such as Korea, which is in the process of seriously opening the capital account.

Comment Pakorn Vichyanond

From my viewpoint, Ngiam's paper is truly impressive in that, given its length, it provides a very comprehensive picture of developments in Singapore as a financial center. Essential facets, or pillars as he calls them, are well contained. Nevertheless, let me add a few points.

First, we should probably be cautious before claiming that deregulation or financial liberalization will definitely encourage cross-border capital flows or strengthen the prospects of any city like Singapore as a financial center. The key point is what we are referring to in the term "deregulation" or "financial liberalization." If we mean fewer capital or exchange controls, its contribution to the development of an international financial center may be positive. But if we mean *less stringent* controls on access to local markets, that is, that tapping local funds from local capital markets is *easier* than before (which is applicable to Thailand), then chances are *slimmer* that local companies will tap funds from abroad or an international financial center like Singapore. The primary reason for reverting to home markets is exchange risk.

Risk aversion to exchange rate variations is well known and also endorsed by Ngiam. That is, local investors in Singapore are generally reluctant to buy securities issued by foreigners on the Stock Exchange of Singapore mainly because those securities must be denominated in non-Singapore currency. The same feeling is true on the other side of the coin. That is, when foreign borrowers such as the ones in Thailand can choose between tapping funds from either the Stock Exchange of Thailand in baht or Singapore's Asian Dollar Market in nonbaht currencies, Thai borrowers are ordinarily tempted to tap funds from local sources, especially their stock market. Therefore, an increasing degree of deregulation or financial liberalization does not necessarily lead to the prosperity of international financial centers. Its largely depends on specific aspects of such deregulation or liberalization.

Evidence from several markets supports my viewpoint, that is, that deregulation can lead to more direct financing and less dependence on offshore money markets. An example is the case of corporate bonds covered by Horiuchi amid the widespread issuances of notes and warrants on the Stock Exchange of Thailand after the newly established Securities and Exchange Commission (1992) implemented several relaxing measures for the stock market. (If my concern is taken into account, there are some implicit paradoxes in Ngiam's paper.)

My second point concerns offshore rivals of Singapore, such as Thailand's

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Bangkok International Banking Facilities and Malaysia's Labuan. Because of their proximity, they represent formidable challenges to Singapore as banking centers accommodating the financial needs arising from the emergence of the economic quadrangle among Thailand, China, Burma, and Laos.

Finally, I would like to investigate the genuine intention of the Monetary Authority of Singapore (MAS) in preventing the internationalization of the Singapore dollar. Ngiam is correct that such a shut-in policy is costly in hindering Singapore's development as an international financial center. But our second thoughts easily support the MAS, since such restriction will help preserve financial stability and minimize disturbances from external sources. In other words, avoiding the internationalization of the Singapore dollar may help retain the current degree of MAS autonomy or independence, if there is indeed any such thing.