Creating Wealth In Post Currency Crisis Asia –
Opportunities for Financial Services in Singapore

by

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Abstract

The Asian currency crisis revealed the structural weaknesses of the banking systems in Asia, following the devaluation of Thai Baht on 2 July 1997. With freedom of movement of capital, economies in Thailand, Indonesia and Korea were affected adversely by the liquidity squeeze when capital flowed out. Banks had to raise interest rates and non-performing loans (NPLs) mounted, leading to severe stresses on banking systems. Post crisis, there were signs of limited recovery of the region in sight, but the region-wide reforms would take some time to complete. In the interim, Singapore could use the crisis to position the entire financial sector has to better respond to future challenges.

The thesis would analyse the causes of the crisis as starting point to derive the directions the financial sector should take. Preserving the stability of the banking sector whilst engendering a more efficient use of capital remains a central issue in this thesis. The crisis has shown that an over-reliance on the debt capital model could lead to a systemic weakness in the economy, and this motivated the need to develop the financial market to ensure diversification. The thesis then evaluates the liberalisation measures adopted by the regulatory body (Monetary Authority of Singapore) in its bid to enhance the financial sector, and identifies some of the main opportunities and challenges ahead.

Beyond leveraging on Singapore’s time-tested regulatory, accounting and legal systems, financial institutions will need to take into account the impact of technology and financial innovation. Globalisation, electronic and online trading are potentially going to disrupt the traditional models of banking and exchanges. Consequently, both the banking and financial market industries need to respond to this new challenge, and the traditional advantages of geography were being eroded. To remain as a vibrant international financial market, banks and exchanges have to upgrade, creating new and more sophisticated value-added products and services through specialisation.

Thesis Supervisor: Lester C Thurow
Lamelson Professor of Management and Economics, Dean Emeritus
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CHAPTER 1

INTRODUCTION

1.1 OVERVIEW OF FINANCIAL CRISIS

The Asian Pacific miracle came to an abrupt halt when the Thai Baht devalued on the 2nd July 1999, and the contagion spread. When it first began in Thailand, the effects were not significant enough to warrant global attention, and some put it down to speculative attacks which would go away. As late as November 1997, US President Clinton first characterised the Asian Crisis\footnote{Nov 1997. Meeting of heads of state of the Asia Pacific Economic Cooperation (APEC) forum in Vancouver.} as “a few small glitches in the road” which underestimated the subsequent deterioration of the situation as the crisis developed. The financial meltdown exposed the structural weaknesses in the financial system in many countries in South East Asia, notably Indonesia, Malaysia, and further away in Korea and Japan. Even some Mexican banks attributed some of their lacklustre performance to the Asian Crisis, and the Russian liquidity crunch in 1998.

Indeed in a world where global capital markets are linked, turbulence in one part of the world could affect another seemingly unrelated economy. The meltdown in financial markets unearthed a deeper need to examine the old formula of state-subsidised export-driven economies, reverse engineering and selling at lower costs to capture market share, and highlight the need to create new sources of value.
1.2 PERFORMANCE OF SINGAPORE

In spite of Singapore’s fundamentally sound banking system and regulatory framework, the financial markets in Singapore were not totally insulated. With a system that promotes freedom of capital mobility, it was not surprising that Singapore is susceptible to the externalities such as the crisis. With economic globalisation, national governments are relatively less able to control their own economies compared to before. In terms of GDP performance, Singapore was able to achieve $80 billion, but the growth rate plunged from 8.0% in 1997 to 1.5% in 1998.\textsuperscript{2} It is growth that we are concerned with. In terms of currency, the Sing dollar was relatively unscathed, as compared to the Thai baht and the Indonesian Rupiah which depreciated more than 30%, setting back these countries by at least 20 years.

How could a small country like Singapore continue to grow at a sustainable rate, when the external environment was so unpredictable and volatile? Amongst Singapore, Hong Kong and Taiwan, Taiwan weathered the crisis the best and emerged relatively intact. A study of Taiwan’s conditions could throw more light on the reasons for its success, which may be adapted to suit Singapore’s context. Following the crisis, the Singapore Ministry of Trade and Industry (MTI) worked with the private sector to study the competitiveness of Singapore as a whole. The study concluded that the real costs of business operations in Singapore have increased significantly, after adjusting for productivity – there is a need to improve its cost position. Next, services will become an increasingly important driver in the growth in the

long run, in tandem with manufacturing. Unlike sticky wage policies found in France or Germany, wages in Singapore were cut by 10% in 1998, and this cushioned the negative impact which firms experienced. But cutting wages alone was not sufficient. There was a need to think ahead about how to restore the economy amidst the uncertainty and loss of confidence in the region. Arising from the second conclusion, the financial services sector was identified as a major growth area, which Singapore should deliberately develop. With the “benefit” of the crisis, the question to ask is whether Singapore should continue to head towards this direction, and if so, where are the pitfalls and opportunities for growth. In many ways, directing resources into developing financial services makes strategic sense in that knowledge and expertise is created. In natural resource scarce Singapore, growing human capital to leverage on knowledge, technology and IT to create value offers an attractive course of action.

1.3 THESIS THEME AND ORGANISATION

In this thesis, it is assumed that the global trend towards greater trade liberalization will continue despite minor setbacks in the current economic crisis. Countries that wish to participate in the benefits of globalization have little choice but to open up their economies. It is also assumed that despite tensions underneath the surface, global and regional stability is maintained adequately so as not to jeopardize global and regional economic growth. These are essential conditions for Singapore to compete with others at a level playing field given its small size and limited resources. This thesis takes a holistic study of banking industry,

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3 Committee on Competitiveness of Singapore. (1999).
covering the policy changes driven by the main regulatory agency (Monetary Authority of Singapore) and the opportunities that industry players (local and foreign banks) can develop and the changes occurring in the main financial markets in Singapore.

Chapter 2 provides a framework of analysis to examine the causes and the lessons learnt arising from the crisis, with the aim of developing an better understanding of the restructuring needed. There is a sense that the financial markets should work towards a new international financial architecture (Eichengreen 1999), and it important for us to understand the implications and see how Singapore fit into the larger scheme of things. A major issue is whether capital control was an appropriate response to the crisis. The underlying idea was that a great deal of the credit problems and volatility in markets was due to easy in- and outflows of capital. Singapore does not subscribe to this position as capital control could damage its reputation as a financial centre, which has contributed to its success as a major financial centre. In Chapter 3, the analysis then considers the driving forces that contribute to the strengths and weaknesses using the Porter framework\(^4\) to evaluate the competitiveness of Singapore as financial centre. Although the term “financial centre” is wide enough to include other non-bank institutions, the main scope of the thesis is concerned with the banking sector (Chapters 4 and 5), followed by capital markets (Chapter 6).

From Chapter 2, the analysis highlights the importance of the stability of the banking system as an important pillar in the domestic financial structure. Chapter 4 expands on the theme of banking system stability in the Singapore context, using the Basle Committee on Banking

Supervision as a baseline for analysis. Apart from the regulatory role played by the Monetary Authority of Singapore, it also has an interest in promoting the financial sector. The rest of chapter 4 considers the liberalisation package that was designed to enable local banks to be more competitive and robust.

Having examined the implications of a stable system and liberalisation, the thesis then analyses the opportunity sets, as suggested by the title of the thesis, in the sub-sectors at the retail, corporate and institutional banking in Chapter 5. In considering the segments of the market structure, the issues of competition and technological innovations were critical in ensuring sustained growth. It should also be noted that the presence of local banks and financial institutions is rather limited in the region as this is a relatively new sector in Singapore’s development. To grow top companies like Citicorps and Goldman Sachs will be a major challenge, and is by no means an easy one. Nevertheless, the broad direction is to try to grow local talent and institutions by tapping on global expertise as Singapore embarks on a new S-curve in its economic development. Although the thesis is centred on the banking sector, the crisis also highlighted the need to reduce the dependence on an economic on bank loans as the main means of financing. This aspect is covered under Chapter 6, which analyses the major developments principally in the equity and bond markets as an extension of the post-crisis logic. The promotional features aimed at creating more opportunities would be addressed. The challenges of modern technology on the traditional model of trading at exchanges could be seen at a distance, but the time will come soon enough for the local stock exchange to respond to it. In enhancing the reputation of the local financial market, issues on improving transparency and the legal framework would be addressed for completeness.
CHAPTER 2

UPHEAVAL IN THE ASIAN CRISIS

2.1 FINANCIAL LIBERALISATION IN EAST ASIA

The use of capital markets is a relatively new event in East Asian economic history; many of the companies tend to be owned by the state or powerful families. This is because privatisation is not as extensive as in the US, and there has been a greater reliance on private debt, rather than equity or public debt. Consequently, banks become a major source of financing, and are an extension of a country’s industrial policy. On the supply side, the high savings rate in Asian countries allowed banks to use the retail customer as a cheap source of funding for corporate loans. Towards the late 80s and early 90s, some of the important factors that have contributed to this growth include liberalisation of financial controls, influx of foreign capital, the growth of institutional investors and the establishment of domestic credit rating agencies (especially for the bond market). This led to the vibrant and growing financial markets in Asia. Demand for funds to undertake major economic infrastructure projects in the 4 Dragons (Korea, Taiwan, Hong Kong and Singapore) and the next tier (Malaysia, Indonesia, Thailand) have resulted in the rapid expansion.\(^1\) On the personal demand side, the growing appeal of fixed-income securities and unit trusts has also contributed to the expansion of the bond market. Japan, following the property bubble collapse, has been steeped in recession since 1991 has not experienced the same level of growth, as borrowing is low.

It was growth that kept these economies and stock markets going. Servicing these loans by firms and banks was not too difficult in good times. Even when margins where getting thin, there was adequate volume to cover, but when the crisis hit, the volumes disappeared – then margins really mattered. Not least, with government support, in the cases of chaebols in Korea and well-connected companies in Indonesia, there was little to fear as they would know where to turn to at time of financial difficulty. The liberalisation of financial controls also meant that banks were able to increase its loans portfolio without having to ensure an equivalent increase in the cash reserves to ensure liquidity in the banking system.

2.2 SURPRISED - IMPACT OF CRISIS

The Asian financial crisis has badly damaged most Asian economies, halting 30 years of unprecedented growth. Asian governments and companies, faced with severe revenue contractions, are suffering from reduced cashflow just as traditional capital sources have dried up. The result is the biggest business contraction modern Asia has ever witnessed. However, what is clear is that banks, securities companies and finance companies would not longer be able to use the same formula again. The crisis has also alerted regulators and industry players to rethink the old paradigm, and to create a new emergent financial industry.² For a start, it would be useful to consider the causes and effects of the crisis, and to see how Singapore might be smarter about developing its own financial sector, considering its significant exposure to the region.

Causes: The Asian crisis that was a trigger for this series of events is best understood as a financial crisis with self-fulfilling features afflicting countries with governments which lack the economic and political strength to defend their currencies. Some argued that the crisis was mainly due to an unsustainable deterioration in macroeconomic fundamentals in the region (IMF 1997). The alternative view, backed by extensive work done by economists in Asian Development Banks (1998) and Radelet and Sachs (1998), explained that the problems were largely structural, including crony capitalism and policy mismanagement involving short-term private capital, which led to sudden shifts in market sentiments. The two views may not necessarily be mutually exclusive, although the consensus is leaning towards the latter.\(^3\) It may still be useful to consider the macroeconomic dimension, given its impact on exchange rates and interest rates, which drive the financial sector. By considering both sides of the arguments, we may develop a better understanding of sources of vulnerability, which could have precipitated the currency crisis.

a. Macroeconomic imbalances. At first sight, it may appear odd that macroeconomic factors contributed to the crisis, given the impressive rates of GDP growth (averaging 5-8% in most cases). The region’s growth has been sustained in part by capital inflows but at the price of rising real exchange rates. China’s export-led strategy wrested a large proportion of trade from the other Asian countries. China’s current account surplus has consistently been achieved over the past 10 years, at an average of 2% (or about $18 bil a year), while affected SE Asian economies were

experiencing deficits. China gained $50 bil in trade surplus, while trade deficits were recorded by Korea ($19 bil), Thailand ($10 bil), Indonesia ($8 bil), Malaysia ($4 bil) and Philippines ($4 bil).\(^4\) By 1997, Asia’s exports stagnated as demand fell, prompting the need to lower the strength of their currencies in order to lower the costs of goods\(^5\) (See Table 2.1 below).

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<tbody>
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<td>-3.5</td>
<td>-2.8</td>
<td>-3.4</td>
<td>-2.2</td>
<td>-1.5</td>
<td>-1.7</td>
<td>-3.3</td>
<td>-3.3</td>
<td>-2.9</td>
</tr>
<tr>
<td>Malaysia</td>
<td>-2.0</td>
<td>-0.7</td>
<td>-2.1</td>
<td>-8.8</td>
<td>-3.8</td>
<td>-4/8</td>
<td>-7.8</td>
<td>-10.0</td>
<td>-4.9</td>
<td>-5.8</td>
</tr>
<tr>
<td>Thailand</td>
<td>-5.6</td>
<td>-3.2</td>
<td>-8.3</td>
<td>-7.7</td>
<td>-5.6</td>
<td>-5.0</td>
<td>-5.6</td>
<td>-8.0</td>
<td>-7.9</td>
<td>-3.9</td>
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<td>Hong Kong</td>
<td>1.9</td>
<td>8.3</td>
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<td>7.1</td>
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<td>-1.3</td>
<td>-1.5</td>
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<tr>
<td>Singapore</td>
<td>-8.8</td>
<td>1.8</td>
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<td>2.5</td>
<td>2.4</td>
<td>2.2</td>
<td>2.0</td>
<td>1.9</td>
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Source: World Economic Outlook database; IMF

Table 2.1 Comparison of Current Account Deficit (1975 – 1997)

Although the underlying factors (high savings, fiscal surpluses, low taxation) that represented growth potential, the short and medium term prospects were doubtful. Consequently, investors were anxious to seek shelter as the crisis developed. Goldstein (1998) noted that the quality of investments in these countries was dubious, despite the high investment ratios of 30% to 40%, because of poor corporate governance and misallocation of resources into sectors which either had over-capacity problems or were speculative.\(^6\) Combining this assessment and the cumulative deficits, the investors quickly lost confidence and pulled out funds. From a market perspective, once it became clear that the best option was to cut loses – panicky investors followed the herd instinct and fled as fast as they could.

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From the government perspective, the options were limited as well. In order to reduce the deficit rapidly, it would entail sharply reducing demand, curtailing production and almost certainly inducing a recession. Governments naturally would not want to induce a recession, especially when the economy was growing, would need to find ways to fund this deficit with borrowing or capital inflows – and over a longer period of time. With capital markets reacting at lightning speed to information, the result of loss of investor confidence would be immediate extrication of funds or speculative attacks. If capital suddenly stops, the policy alternatives would be to raising interest rates sharply (again hurting the economy) or to expend precious foreign reserves to provide the financing. It was a trying time for affected governments. Although Singapore was not impacted directly during the crisis, the externalities due to crisis depreciation of the region, and the exit of funds from the region affected Singapore. Not least, with Malaysia and Thailand as top 10 trading partners of Singapore, these economies were closely linked.

**b. Financial Sector Weaknesses.** Financial systems in the crisis countries were in a delicate situation, and high interest rates only served to compound their problems. In particular, the now higher interest rates needed to attract foreign capital to stabilise the balance of payments (BOP) threatened to destabilise the banking system. Historically, Eichengreen (1997) argued that a rise in world interest rates represented the single most powerful trigger a financial crisis. Since the banks are in the business of liquidity

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8 Trade Development Board of Singapore. “1997/8 Annual Report”. Bilateral trade and economic activities with Brunei, Indonesia, Malaysia, the Philippines and Thailand came under significant pressure as each country attempted to bolster its own economy.
transformation, higher interest rates raised their operating costs relative to revenue. And passing on those higher costs to their customers precipitated loan defaults that further hurt their balance sheets. Sustaining capital inflows required reducing liquidity in domestic financial markets, which in turn weakened the banking system. Dornbusch (1998) pointed out that "to keep the Ponzi game and hold the exchange rate, interest rates has to go up to reward foreign lenders for the risk, but that made real estate and banks even worse. To keep banks alive, interest rates had to go down. The government could not have it both ways. They cut rates, made it free to speculate against the currency and that is what happened." Indeed, after Samprasong Land missed a payment on its foreign debt in Feb 1997, the Bank of Thailand lent more than $8 bil to distressed financial institutions through its Financial Institutions Development Fund, despite mounting pressure on the Baht, which it supported by intervening in the foreign exchange market.

c. **Short Maturity of Debt.** Another major cause of the spread of the crisis is the heavy dependence on short-term foreign funding which many of the Asian banks and corporations are exposed to. From the perspective of reducing the cost of borrowing in a relatively stable currency exchange environment, it would seem advantageous to take full advantage of the cheapest funding sources. Between 1990 and 1996, about 50% of net private portfolio capital inflows into Thailand in the form of short-term borrowing. Net capital inflows into S Korea grew to 62% from 1994-7, compared to 37% from 1990-3. Net inter-bank borrowing grew to $43 billion in 1995-7, as compared to $14 billion in the five years ending in 1994. Hence the problem of uncontrolled inflows has led to the

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accumulation of large stocks of short-term debt denominated in foreign currency,\textsuperscript{11} that need to be rolled over regularly. This means that banks were exposed to both basis risks and exchange rate risks. If confidence was disturbed, it would be necessary to raise interest rates to encourage investors to renew their maturing loans. Given the weakness of the banks, there were questions about the willingness and ability of governments to do so. Governments that show a willingness to bail out distressed banks would only weakened their own positions, especially if their foreign exchange reserves were already thinly stretched. Solomon (1999) noted that the Thai central bank foreign reserves were depleted by the time crisis hit; the reserves had dropped by $5$ bil after capital inflow was cut off.\textsuperscript{12} Moreover, to shore up confidence in the Baht, the central bank had to make large purchases in the forward market. By which time, the speculative attacks were in full swing, and the Baht was unpegged and the it fell by $20\%$ in July, and an additional $25\%$ in Dec 1997.

\section*{2.3 ANALYSIS \& LESSONS}

\subsection*{2.3.1 Globalisation of Markets.} The crisis also revealed the global nature of financial markets. Just as the demand for foreign funds for development increased from 1990 to 1997, this demand was partly met by foreign investors looking for opportunities in Asia. For example, European banks, following reduced domestic margins as a result of financial deregulation, came to Asia in search of higher returns. Additionally, lower interest rates and yields encouraged institutional investors to borrow in Japan and US in

\textsuperscript{11} 43\% are denominated in Yen, and the rest in US dollars.
order to purchase higher yielding bank deposits or fixed income securities in Asia. This worked well as long as the exchange rates were pegged, since capital flows would tend towards covered interest rate parity (IRP) in the absence of arbitrage. Given this high capital mobility, authorities in capital-receiving countries have little ability to restrain the growth of domestic credit. This coincided with the US Fed Reserve policy of monetary expansion (low interest rates) to stimulate the economy in the US. As exchange rates and monetary policies were linked, Hale (1997) noted the increase in rapid credit growth in SE Asian countries links to the US dollar, “America’s expansionary monetary policy that helped to encourage rapid credit growth”. The free mobility of capital and matching of supply and demand of funds meant that Asian countries were accumulating larger capital inflows, which in turn means larger current account deficit (since \( CA + KA = 0 \), if there is no change in reserves) and more real exchange rate appreciation. Both deficits and large real appreciation were sources of vulnerability when financial market conditions were disturbed.\(^{13}\)

2.3.2 Stability of Banking System. With a high dependence of debt financing and banks acting as the main financial intermediary, the stability of the banking system becomes an important precursor to sustained economic growth. The main worry for banks is credit and default risks. The loss of principal of a bad loan would typically jeopardise the interest earnings of 20 to 30 loans, which leads to the question of ascertaining the credit worthiness of borrowers. However, this is a problematic task especially given the lack of transparency of a large proportion of Asian firms and the varying standards of financial reporting. Even if we consider a less severe form of risk where borrowers default on
interest payments, it could cause banks to lapse into insolvency if the problem was widespread. During the crisis, we observed that credit rating agencies also had difficulty with the task of timely and accurate ex-ante credit assessments.

In view of the limitations highlighted, one way banks could protect themselves would be to reduce their exposure. However, with the influx of foreign capital during the book years, banks were able to gain access to cheap funds and leveraged their balance sheets to lend to the private sector. Based on Table 2.2 below, these economies were registering double digit growth in bank credit in their respective private sectors.

Table 2.2 Bank Credit to Private Sector

<table>
<thead>
<tr>
<th>Country</th>
<th>Annual rate of expansion (%)</th>
<th>As % of GDP</th>
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<tbody>
<tr>
<td>Indonesia</td>
<td>22</td>
<td>18</td>
</tr>
<tr>
<td>Thailand</td>
<td>15</td>
<td>18</td>
</tr>
<tr>
<td>Philippines</td>
<td>-5</td>
<td>18</td>
</tr>
<tr>
<td>Malaysia</td>
<td>11</td>
<td>16</td>
</tr>
<tr>
<td>Taiwan</td>
<td>15</td>
<td>13</td>
</tr>
<tr>
<td>S Korea</td>
<td>13</td>
<td>12</td>
</tr>
<tr>
<td>Singapore</td>
<td>10</td>
<td>12</td>
</tr>
<tr>
<td>Hong Kong</td>
<td>13</td>
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</tbody>
</table>

Source: BIS (1998)

As a result of the crisis, the levels of non-performing loans nearly crippled many banking systems in the region. In the case of many Asian banks, the impact of high interest rates and rapidly weakening currencies aggravated the crisis. As firms were hard pressed to meet these significantly higher costs of interest payments, banks had to bear greater credit and default risks. But we can see the need for systemic changes to improve disclosure

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and financial reporting standards at the regulatory level, and for banks to develop better risk assessment and management systems in order to protect their investments. At the same time, it was apparent that higher prudential and regulatory standards were needed to reduce the overall exposure of the banking system.

2.3.3 Understanding the Meltdown In Detail. These sources of vulnerability explain the currency crisis, but it is the speed and extent of the crisis that forced the meltdown of the financial markets and the collapse of the Asian miracle. We shall examine the main factors that contributed to the meltdown, and analyse their impact on Singapore’s future plans. It also be noted that the deepening slump in Japan is a constant worry, and its recovery would help to cushion the effects of loss of confidence in the region, as well as providing some level of liquidity support. For the purpose of this study, there is little Singapore could do to influence Japan’s economic policies, except to find areas of common interest for cooperation in building stronger financial linkages. The major factors of concern are outlined below:

- Unhedged Foreign Exposure
- Cascading Defaults & Contagion Effects
- Flight to Quality (or scramble for cover)

Unhedged loans – The debts incurred by Asian countries were largely concentrated by the private sector, and with so many banks involved, the effects of not having a coordinating mechanism to work through the debtor-creditor negotiations was devastating. Unlike the Mexican crisis where the loans were largely incurred by the
government, it was possible to negotiate sovereign loans or refinancing, with a reduced risk of default. The Brady Bonds arrangement was such an example, and although the peso has to devalue, the effects were largely contained within the government realm. Critically, the foreign debts of Asian banks and firms were largely unhedged. When large swings in exchange rates occurred, coupled with the need to meet margin calls, unhedged banks and firms were hardest hit. The exchange rate has been pegged so long that firms did not see the need to be insured. Underlying the rapidly deteriorating situation was the vicious circle of rising debt servicing costs, reduced demand and output and downward pressure on exchange rate for affected economies:

![Diagram](Image)

**Fig 2.1: Vicious Cycle that aggravated the devaluation of Asian currencies.**

Prudent supervision of banks in order to ensure the stability of the banking system must be a high on the strategic agenda of countries. At the same time, banks would also need to take their own measures in ensuring that they are not caught in the vicious cycle shown in Fig 2.1. In terms of remedies, these banks and firms may want to hedge against future shocks. This points to a possible growth market for financial services that provide hedges against sharp foreign exchange movement. This is an area where Singapore, a major forex centre, can be relevant to the regions’ recovery.
**Cascading Defaults and Contagion Effects.** Apart from the liquidity squeeze, and the IMF insistence on high interest rates, the structural issues also include adequacy of bankruptcy and insolvency procedures. Creditors’ confidence in the financial system was significantly lowered by this time, and the risks of not being able to liquidate quickly enough, before assets were stripped by insiders and politically influential claimants\(^\text{14}\), precipitated further selling. Goldstein (1998) referred to the crisis as the “wake-up-call” hypothesis, where deeper problems than just trade imbalances and devaluation arising from the lack of resources to defend the peg. Yellen (1998) suggested a potential explanation goes back to the bank-based nature of Asia’s financial system. The region had developed few financial markets on which information was reflected in the prices of exchange-traded financial assets. Instead, this business was done by banks possessing relatively favourable access to information on their customer financial position, and are unwilling to share this proprietary information with competitors. The lack of transparency of bank balance sheets, reflecting the failure of supervisors to require banks to follow rigorous auditing and accounting practices, heightened the difficulty of distinguishing good credit risks from bad ones. In this information-dependent age, bank runs triggered by mounting non-performing loans could lead to systemic banking crisis and spill contagiously across countries.

**Flight to Quality.** The banks and firms that had uncovered positions would scramble for cover when the exchange rate began to move. In addition to having to fulfil the existing currency commitments, banks looking ahead needed to cover future needs, sought

additional foreign currency. This exchange diminished the value of home currency. At the same time, foreign funds also wanted to withdraw their funds to safety. For example, the distressed Japanese banks (with falling asset prices and decline of the Nikkei) needed to call in their loans. In order to repay loans, coupled with decline values of home currencies, hedge funds and investors were forced to raise cash to pay back their borrowed funds. The dynamics of margin calls forced them to sell in a falling market, triggering even more forced selling. Credit rating agencies, surprised, now reacted by downgrading Thailand, S Korea and Indonesia’s debts in Dec 97 to below investment grade. Consequently, banks and corporate bonds became junk bonds.

2.3.4 **Diversification.** As a corollary of 2.3.2, from an overall financial system design perspective, it would be prudent to also diversify the burden on banks to include financial equity markets, and also to develop better derivative markets to better manage the range of financial risks that banks and firms are exposed to. Tsui (1999) affirmed this in his study of the crisis in Hong Kong, noting that although investors would still sell the shares in troubled times, the dislocation to the banking system due to loan defaults could be reduced.\(^{15}\) The mismanagement of the maturity structure of debt would also need to be examined carefully, as the burden of helping weak banks may fall on the shoulders of governments. This in turn would lead to a lose-lose situation where both institutions collapse.

As a result of the underdevelopment of Asian capital markets, we observed that the stark
declines in market capitalisation when financially distressed firms undermined investor confidence (see Fig 2.2 below). The collapse of both investor and trader interest reflected the fact that the investment approaches to the markets were immature, as too much hot money were inflating these markets, and as the funds were pulled out, the markets collapsed just as quickly.\footnote{Tsui. (1999), “Lessons from Hong Kong’s Experience of the Crisis”. Pgs 44–5. However, an open equity market is subject to volatility, and its exposure to global capital could be considerable.} The contagion effect clearly affected most Asian economies, but Hong Kong, Taiwan and China emerged relatively less severely affected. Japanese markets were at already their low points and the reduction was consequently more modest.

\begin{figure}[h]
\centering
\includegraphics[width=\textwidth]{fig2_2}
\caption{Decline in Stock market in Asia 1997-8}
\end{figure}

\begin{flushright}
\footnotesize Source: Datastream
\end{flushright}

Although Taiwan and Singapore economic were policies were similar, Taiwan was less affected by the meltdown. Taiwan’s export orientation towards the US and Europe has helped to buffer it from the meltdown. Financially, the ideas are similar: greater reliance
on longer-term foreign direct investment, while short-term foreign inflows were carefully modulated so that they do not impair the performance of the domestic economy. While not in the same league as Singapore and Hong Kong as financial centres, Taiwan has embarked on the process of relaxing the capital restrictions. Between 1993-4 (pre-crisis), rules were gradually relaxed to allow freer flow of funds and foreign exchange,\textsuperscript{17} and Taiwan’s equity market was vibrant and well-developed. With steady improvements in the corporate financial structure, the average debt-to-equity ratio for listed companies had fallen to 78%.

In terms of export orientation, Taiwan was well diversified. There was greater support for local enterprises rather than rely heavily on multinational corporations to drive the economic growth. Furthermore, the emphasis on technological advancements and total factor productivity experienced by Taiwan since 1980 was unmistakable. Between 1961 and 1982, capital accumulation and total factor productivity accounted for 53.19\% and 23.21\% of economic growth, respectively. The corresponding figures for the period 1982-1992 were 36.28\% and 49.59\%.\textsuperscript{18} With the capability to produce high-end products, Taiwan’s high-tech exports grew from 24.2\% in 1989 to 41.1\% in 1998. The diversification strategy led to 43\% of exports to the US and Europe, which helped to buffer the impact of the regional downturn.

\textsuperscript{17} Emery (1997) "The Bond Market of Developing East Asia" Pgs 293-4. For example, overseas bond issues could be converted into local currency, and Euroconvertible bonds could be turned into global depository receipts.

\textsuperscript{18} Perng (1999) “Responding to the Challenges: Financial Development and Structural Change in the ROC Economy”. Governor of Central Bank of China
2.4 RECOVERY AND COMPETITION

By 2000, the region seemed to have emerged from the trough of the decline and the prospects look more optimistic. GDP growth rates for most affected economies have largely rebounded from negative rates to between 0.5% (Indonesia) and 12% (S Korea) in 1999.19 The underlying issues of sound financial restructuring, banking system and corporate governance remain to be worked through. The doubt about Asia as promising emerging market seemed to have receded for the time being. However, as a result of this discontinuity, there are many opportunities for change and setting new rules to play the game.

2.4.1 **Period of Restructuring.** At the regional level, this would be a period of adjusting to the new environment and carrying out the reforms. The fundamentals, such as high literacy and savings rates, a cheap and industrious workforce and pro-development governments, remain generally intact. Issues concerning resource allocation, total factor productivity would inevitably need to be addressed. Responsible regional governments were anxious to restore their banking system in order to recover quickly from the crisis, we could expect to see greater financial liberalisation in the affected economies.

The major players in the region will undoubtedly be China, Japan and Indonesia. China continues to maintain a strong yuan despite sustained expectations of devaluation. The Economist reported that China’s GDP and industrial production growth were 7% and
8.8%, and the foreign reserves grew from $148.6 bil to $156.7%. The morale in Japan also picked up as the Nikkei 225 index crossed the 20 000 mark for the first time since July 1997, and current account surplus reached $111 bil in 1999.

Economically, Indonesia seemed on course to recover, although the domestic weaknesses in the banking sector and excessive borrowing by firms remain outstanding. The sharp inflation experienced during the height of the currency crisis has subsided, but the high interest rates could dampen the recovery process. Political stability remains the most crucial factor as the political system undergoes the transition from military power (ABRI) to the democratically elected civilian rule. Socially, the struggle to deal with income inequality and at the same time not alienate the 3% of Indonesian Chinese who control 80% of the wealth in the country has the potential to divide the country further. As the transition process has some way to go before completion, we can expect some degree of uncertainty and possible spillover effects to the region. If the situation deteriorates significantly, then Singapore by virtue of its close proximity will be hurt. Apart from differentiating itself from the region, Singapore has the option of going an extra step by assisting Indonesia within its means in the economic realm. The various forms of participation could be in sovereign loans, investments in the Bantam-Bintang-Singapore industrial park and in the banking sector. Such efforts are likely to promote better ties and linkages between the business and government circles from both sides, as well as improving the level of understanding of the financial risks and opportunities in Indonesia.

Elsewhere in the region, the race to restructure the financial systems and push ahead with economic recovery policies has started. The correction in regional currencies has enabled the region to be more competitive, and the recovery will place a greater demand for funds. Thus, we can expect financial markets around the region to be revitalised to attract more custom. At the same time, regional banks that would also need to be recapitalised; those that were conscientious in their restructuring efforts would emerge stronger and leaner. Reforms, however, do not take place overnight. It would take time for regulations to be put in place and business practices to evolve.

Competition in the financial sector will be more intense. As impoverished capital markets are seeking funds to facilitate the recovery, the competition for funds will intensify. In particular, investment opportunities would avail themselves in Asian debt and direct investment markets, since earlier investors bail out of bond positions, there are ample bargains, from solid corporate credits and sovereign issues to defaulted bonds being restructured into new debt and equity securities. Competition in the banking sector would also be tougher. Apart from regional banks, global heavyweights, such as Citicorps, Morgan Grenfell and Hong Kong and Shanghai Bank, were also not slow in picking up bargains and further strengthen their position in Asia. Hence, for Singapore banks to develop into world class banks with a strong regional presence – there is a major challenge ahead. The steep learning curve which local banks need to climb order to gain access into regional markets where more established global banks have made headway presents a formidable, but not impossible, challenge.

2.4.2 Role of International Bodies. Given the high costs of currency and banking crises, the IMF, G-10 and BIS have devoted a great deal of attention to this matter. Clearly preserving the stability of the international financial system would require more thought, but several preliminary ideas have been developed over time. There was a sense that a new international financial architecture was needed to prevent, predict and manage crises, and the suggestion that IMF could be better structured to undertake this function was also mooted extensively. Others, e.g. as Sachs (1998b), have argued for alternative international structures, such as an international bankruptcy court with the halt the creditor grab race to calm down the panic which was witnessed in the Asian crisis. IMF took a pragmatic stance in recognising that national authorities have the prime responsibility for ensuring banking stability. The IMF was prepared to “focus on identifying those weaknesses in the financial system, particularly the banking systems of member countries that could potentially have major macroeconomic implications.”20 Other efforts to better regulate the banking sector came from the Basle Committee on Banking Supervision, under the ambit of the Bank of International Settlement (BIS), updated their guidelines to better reflect market risks that banks were undertaking.

2.4.3 Restricting Capital Flows. Yet others (e.g. Obstfeld 1995) have advocated the use of capital controls that restrict any inflow or outflow, except at government stipulated exchange rates (at one extreme), or the a more moderate approach introducing Tobin taxes on foreign exchange transactions to reduce volatility.21 Dornbusch (1997) argues for a small tax to be levied by individual countries which could be varied over time on all

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20 IMF. “Toward a Framework for Financial Stability” (Jan 1998)

21 Dornbusch (1997) argues for a small tax to be levied by individual countries which could be varied over time on all
international transactions to discourage short-term capital flows and lengthen investment horizons. Such a tax would be superior to administrative controls in that a “maximum of market choice and discipline is maintained and a minimum of bureaucratic control intrudes”. However, it remains to be proven that future crises could be averted as result of such taxes, or that such taxes indeed reduced volatility of exchange rates or security prices (see Schwert, 1993, Hakkio 1994).\(^{22}\) If such taxes were widely adopted, it may well reduce the volume of financial transactions, and may undermine the viability of exchanges and financial markets at the operating level. Markets would have to find ways around such taxes through derivatives and schemes – which may make it harder for regulators to fully monitor the actual capital flows.

Edwards (1999) considered capital control as quick fixes that do not solve the underlying causes of a financial turmoil.\(^{23}\) A better approach involved setting sound macroeconomic policies, flexible exchange rates and strong banking sector. For instance, South Korea undertook severe measures to rectify the underlying economic problems, and its stock market rebounded by 50% in 1998, without having to impose capital control.\(^{24}\) Singapore abolished exchange controls in 1978, with no controls on inflows and outflows of funds: this principle has guided the design of market structures. For Singapore to be a global international financial market, technology should be exploited to further strengthen its market structures in order to promote a more open financial environment.

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What is clear is that flexibility and adaptability to such changes would be crucial for international financial centres. These issues would continue to impact the way the financial infrastructure and markets, regulatory framework and the banks are organised.

2.5 MOTIVATING ISSUES FOR SINGAPORE

This chapter examines the key causes of the crisis, and the effects that impact on Singapore. Based on this analysis, we will pose these issues for further study:

- How can it differentiate itself as a financial centre from the rest in Asia?
- How can it strengthen its financial system with better policies and infrastructure?
- How can it capitalise on the post-crisis opportunities to grow its local financial institutions (both the banking sector and financial markets)?

The linkage between the factors considered and the opportunities and challenges are outlined in table 2.3:

<table>
<thead>
<tr>
<th>Crisis-Related Issue</th>
<th>Opportunities</th>
<th>Challenges</th>
</tr>
</thead>
</table>
| 1. Macroeconomic Stability/Policy | - Continue policy of strong domestic current account balance  
- Transition to knowledge based economy is part of strategy to improve total factor productivity | Externalities due to regional countries can affect Singapore adversely. The outcome of Indonesia’s transition remains a key uncertainty. |
| 2. Exchange Rates | Continue flexible exchange rate policy allows currency to be pegged competitively to major trading partners | |

Table 2.3 Summary of Opportunities and Challenges Arising from the Crisis
<p>| | | |</p>
<table>
<thead>
<tr>
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</thead>
</table>
| 3 | Over dependence On banks for Economic development | • Develop domestic capital markets as part of diversification strategy  
   • Ensure stability of banking system |
| 4 | Lack of transparency in reporting | • Develop new capabilities for surveillance, and attract more credit rating agencies, as well as building up local expertise.  
   • Review financial reporting and anti-fraud processes to improve transparency. | Lacking in early warning capabilities |
| 5 | Banking Sector weakness | • Continue to enhance reputation as differentiated banking sector  
   • Update capital adequacy regulation to strengthen banks’ performance.  
   • Leverage on strong forex market to provide better services in hedging foreign denominated loans – both domestically and regionally | Short-term maturity loans needs to be managed to limit exposure |
| 6 | Recovery in Region | • Enhance financial infrastructure, regulatory framework and organisation of banks  
   • Develop equity and bond capital markets, and exchange services  
   • Expand into region, cooperate with regional and global banks to form alliances, joint ventures | Increased competition from recapitalised regional banks, and entry of global heavyweights |
| 7 | International Financial Issues | • Engage and network with international banking bodies and participate actively.  
   • Facilitate capital flows. | Capital controls could potentially reduce transaction volume, and undermine the international capital flows. |
CHAPTER 3
INTERNAL SCRUTINY

3.1 GROWTH AS A FINANCIAL CENTRE – THE EARLY YEARS

Singapore is an unlikely financial centre. Like many other sectors of the economy, it had
to be developed deliberately by the government since its independence in 1965.
Compared to New York, London, Tokyo or even Hong Kong, these centres cater mainly
to a large domestic or hinterland market. New York’s financial strength stems from
corporate America, and the powerful capitalist US economy. London achieved its
international financial centre status with the rise of the British Empire since the 1800s.
From 1914, London’s capacity to be the leading financial centre was challenged by the
rise of New York. But London was fortunate able to grow due to the development of the
Eurodollar market, and the series of regulations that impeded US participation as an
international financial centre. For instance, the US was unwilling to be the lender of last
resort in 1936, until the Tripartite Monetary Agreement was signed. Subsequently,
European borrowers turned to London. When the Eurodollar market developed in the
early 1950s, the leadership was transferred from New York to London. Moreover, the
introduction of the first Regulation Q and later capital controls in the 1960s encouraged
more New York banks to expand their operations in London further.¹ Tokyo, on the other

Pgs 62-63.
hand, grew as Japan emerges as an important economic power post WWII rebuilding, while Hong Kong acted as the gateway to China.

Upon independence, Singapore had few of the advantages of a large domestic market or the extent of foreign assistance. As a newly formed country with limited natural resources, except for 2 million people and a good port, the economic imperative was to quickly industrialise to develop.

3.1.1 Growth of Banking Institutions. Unlike other countries, Singapore’s financial sector started with a high level of foreign bank participation. As a former colony, the banking scene was dominated by foreign banks, such as the Hong Kong and Shanghai Banking Corporation (HSBC) and Standard Chartered Bank, which dominated nearly 2/3 of total bank deposits. As local banks were small and insignificant, MAS strove to help the local bankers to develop in size and stature, through regulations. Apart from the economic impetus to raise capital through high savings, the socio-political mood of a young nation was one of asserting its own independence, and the banking sector was a very visible way of demonstrating local ownership.

There is a three-tier licensing system for commercial banks, comprising full banks, restricted banks, and offshore banks. However, in wholesale banking, and in treasury and capital market activities, foreign banks compete more freely with local banks, while offshore banking is open completely. This created the window for foreign participation, and when the Asian Dollar Market was formed in 1968, numerous international banks and
financial institutions opened their offices (See Table 3.1). As a major shipping centre, it was closely in touch with the flow of trade, and the demands for intermediary financial services grew as global trade expanded. It made good sense for Singapore to leverage on the synergy to grow the financial sector. Also, the policy of attracting foreign banks from different countries in a diversified way allows Singapore to gain global access.

<table>
<thead>
<tr>
<th></th>
<th>1965</th>
<th>70</th>
<th>73</th>
<th>77</th>
<th>78</th>
<th>82</th>
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<tr>
<td><strong>Commercial Banks</strong></td>
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<tr>
<td>Full licence Local</td>
<td>10</td>
<td>11</td>
<td>11</td>
<td>13</td>
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<tr>
<td>Full licence Local</td>
<td>24</td>
<td>26</td>
<td>24</td>
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<tr>
<td>Restricted licence</td>
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<td>13</td>
<td>13</td>
<td>13</td>
<td>13</td>
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<tr>
<td>Offshore banks</td>
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<td>27</td>
<td>31</td>
<td>31</td>
<td>66</td>
<td>66</td>
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<tr>
<td><strong>Total</strong></td>
<td>34</td>
<td>37</td>
<td>54</td>
<td>77</td>
<td>81</td>
<td>116</td>
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<tr>
<td><strong>Foreign Agencies</strong></td>
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<tr>
<td>Representative offices</td>
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<td>31</td>
<td>40</td>
<td>44</td>
<td>56</td>
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<td>Merchant banks</td>
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<td>17</td>
<td>23</td>
<td>27</td>
<td>45</td>
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<tr>
<td>Discount houses</td>
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<td>4</td>
<td>4</td>
<td>4</td>
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<tr>
<td>International Money Brokers</td>
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<td>5</td>
<td>6</td>
<td>6</td>
<td>9</td>
<td></td>
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<tr>
<td>Finance companies</td>
<td>96</td>
<td>36</td>
<td>36</td>
<td>34</td>
<td>34</td>
<td>35</td>
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<tr>
<td><strong>Major Local Banks</strong></td>
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<td>US</td>
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<tr>
<td>Development Bank of Singapore, UOB, OUB and OCBC</td>
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<td>Citibank (1902), Bank of America (1955), Chase Manhattan (1964),</td>
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<td>Japan</td>
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<tr>
<td>Bank of Tokyo (1957), Mitsui bank (1963), Sumitomo (1973), Mitsubishi (1973)</td>
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<tr>
<td>Others</td>
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<tr>
<td>Chartered Bank, Hong Kong and Shanghai Bank</td>
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</tbody>
</table>

Source: MAS Annual Reports 198102; MAS Financial Structure of Singapore 1980, pg. 16.

There was also a need to set up a regulatory framework to govern the growth, and the Monetary Authority of Singapore (MAS) and the Currency Board formed the regulatory arm in the public sector.² MAS was tough with the banks from the start, insisting that

² Lee Sheng-Yi (1984). Financial Institutions and Markets in Southeast Asia. Pg. 231. Back in 1967, the Currency Board maintained the Singapore dollar, pegged at 0.290299 grams of gold. Subsequently, when the gold standard was abandoned, MAS took over this function and pegged the Singapore dollar to a weighted-average of a basket of currencies with major trading partners.
local commercial banks maintain a minimum cash reserve of 6%, and a liquid asset ratio of 20%. At that time, the idea of a stable local currency was also embedded in the economic strategy formulation. With a stable Singapore dollar, foreign investors were more willing to put their money in Singapore, which created a dynamic multiplier effect for developing industries. The government also emphasized the need for strong institutions and cautious management of the financial sector. The relatively strong performance of the Singapore financial centre in the crisis could be traced to the fundamental principles that guided the regulation of the financial sector back in 1968.

3.1.2 Growth of Capital Markets. For a common conceptual framework of capital markets, we trace it to the traditional role, where commercial capital mediates in the circulation of commodities for a fee. It does not retain any direct or long-term ownership or control of these commodities. There are 4 main clusters of capital. The first is those concerned with exchange of commodities. The second is concerned with mediating monetary exchange where wholesale money markets functioned in Eurocurrency markets, foreign exchange (forex) markets. A third cluster deal with securities issued by companies and governments to raise capital in primary markets and secondary markets. The last cluster is focused on selling corporate services, such as non-life insurance and reinsurance.

In particular, Singapore specialised in the second cluster through setting up the Asian Dollar Market (ADM). The ADM and Eurodollar market are in fact of the same offshore
banking system serving the short-term money market. Because funds flow freely between the two markets, the interest rates are very close together. In Singapore, the offshore banking system and the national banking system grew side by side. In order to attract commercial capital, policies were designed based on the following principles:

a. Free flow of funds
b. Minimum taxation

Translated into action, these incentives scheme created opportunities for regulatory arbitrage for foreign banks: the 20% liquidity ratio requirement (which was insisted upon for local banks) for Asian Currency Units was waived and stamp duties were abolished for fixed deposits.\(^4\) This set the stage for the ADM to grow, and the full liberalisation of exchange control from 1978 allowed the free flow of funds in ADM. Over time, the segmentation between the national banking system and the ADM was reduced, and Singapore residents could have access to the ADM, which led to the great credit expansion in 1972. In terms of taxation, withholding tax of 40% was abolished to help the ADM take off, and the income tax on interest from loans has been reduced from the normal rate of 40% to 10%. For a young country trying to balance its fiscal budget, such a significant reduction in revenue could only be justified by the desired strategic goals. Put another way, the foresight and will of the government were important elements in the development of the financial centre.

Competition from Hong Kong threatened to derail Singapore’s plans. Hong Kong tax laws were more attractive as income arising from outside Hong Kong was not taxable,

while Singapore’s tax net was global in that income earned anywhere would be subject to tax if it was repatriated back to Singapore.\textsuperscript{5} As a result, international banks and corporations tended to switch their funds to Hong Kong for investment and lending purposes. As game theory would suggest, the only way to compete is to lower the tax to the point that one side has a stronger position. It is not clear at that time if a Nash equilibrium existed, but clearly Singapore has to develop better knowledge of the market and more sophisticated tax codes to remain in the game.

During the same period, Singapore also developed the equity market (third cluster), albeit its modest industrial base in this young economy. The Stock Exchange of Singapore (SES) was formed after May 1973 when the Malaysian government decided to terminate its interchangeability of currencies between Malaysia and Singapore. As at 1981, the SES had 23 members companies with 98 stockbroking members, 52 dealers and 430 remisiers with 270 companies. Market capitalisation was close to US$31 bil (or S$ 79.3 bil) in 1981. To encourage private firms to go public, capital gains tax were removed, and a preferential tax system prescribed lower tax rates for public company profits.

This section shows the historical and political context in which financial centre took shape, as well as the broad principles that guide its development. The 1997 crisis was a test of Singapore system and the foundation and good reputation developed over the past 30 year. The rest of the chapter examines the determinants of national competitive advantage as Singapore aims to be succeed as a leading international financial centre.

\textsuperscript{5} Lee Sheng-Yi (1984). Pg. 262.
3.1.3 Profile of Singapore’s GDP

Today, manufacturing, commerce and services largely drive Singapore’s economy, and the evolution of the GDP structure from 1960 to 1998 is shown in Fig 3.1. The percentage contribution from financial services has been increasing, except for 1997. Per capital GDP, Singapore enjoys a high rate of $31600 in end 1997, and the projection for 2010 is estimated to be $79000. Although Singapore emerged relatively unscathed in the crisis, it could not continue with business as usual. Singapore has to adapt and find new strategies and capabilities to advance, and indeed it was strategic to extend Singapore’s lead in financial services. A private-sector led competitiveness study noted that the cost of conducting business in Singapore has increased. The study recommended that Singapore had to be more cost-competitive, as well as developing higher valued added and knowledge-based services to justify the premium that Singapore commands. In 1999, a new techno-preneurship drive was initiated to encourage and support homegrown high-tech start-ups, in its effort to raise the level of innovation and manufacturing.

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3.2 REQUIREMENTS OF AN INTERNATIONAL FINANCIAL CENTRE.

Broadly defined, a financial centre is a place where a network of institutions and efficient markets providing a range of financial services to facilitate domestic, regional and international flow of funds for trade. A good financial centre is also a place where funds are concentrated, and not frequently displaced due to economic shocks or excessive restrictions. To be international, these conditions are necessary but insufficient. Though by no means exhaustive, the literature\(^7\) seems to advocate that an international financial centre will need to have the following properties:

- Excellent communications infrastructure (telecommunications, air transport) for speed and access
- Good financial, legal, accountancy expertise
- Up to date market information
- Concentration of other financial institutions for coordination, teamwork in matters such as loan syndication (risk sharing) and other credit transactions for large loans (capacity issue).
- Active interbank money markets for quick channeling of financial resources

Location economics remains important for international banking given that the advantages of plumbing and access to markets. By locating in one central place, banks

\(^7\) Roberts (Ed.) (1995) “International Financial Centres – Concepts, Development and Dynamics”. A host of articles proposed ranking criteria and cross-country comparisons. Most notable was a study by Howard Reed (1980) who used 16 factors to rank international financial centres. London and New York were top.
can spread their overhead costs in serving clients in various countries. Contact with potential borrowers or clients wishing to invest in Singapore financial markets is essential for bankers and brokerage houses. Additionally, Singapore enjoys a favourable time zone advantage with overlaps with both the US and UK trading markets. However, increasing with the explosion of technological advances in telecommunications, Internet and the high leverage points may be derived in cost savings and better services. Geography may no longer be as strategic. Additionally, as services would increasingly matter more, expertise and investment in finance technology (such as financial engineering, risk modelling tools) become more important. The effects of technology will be discussed in greater detail in later chapters.

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8 Park (1989) “Recent Functional Changes in International Finance”. Pg. 244.
The following section will use the Porter diamond as a framework to analyse the banking industry in Singapore, as illustrated above.

3.3.1 Competitiveness. In 1997, Singapore was reported the most competitive economy in the World Economic Forum’s Global Competitiveness and the second most competitive behind the US in the IMD World Competitiveness Report. This provides a sound and stable economic environment to support an international financial centre. As
financial services is the fastest growth sector in the economy, it is clear that its
contribution to these rankings is significant. In terms of cost of operations in Singapore,
the Competitiveness Report noted that Singapore is increasing becoming more expensive
as a base for operating activities, in terms of rentals and labour costs. However, the
relatively low corporate tax rate of 26% remains attractive for business, and this has
continued to support the industry. The relatively open financial environment where
capital controls are virtually non-existent is an important factor as well. This is in
contrast to the capital control policies, which were imposed at the height of the crisis in
Malaysia.

Tokyo is clearly the largest in Asia, and thus the competition is narrowed down to Hong
Kong and Singapore, although Australia comes close behind. In order to gain a
perspective of Singapore’s place in the region, we present below a comparison with Hong
Kong.

<table>
<thead>
<tr>
<th>Businesses (in US$)</th>
<th>Singapore</th>
<th>Hong Kong</th>
<th>Ratio Sing/ HK</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall GDP</td>
<td>$98 bil</td>
<td>$171 bil</td>
<td>57.3%</td>
</tr>
<tr>
<td>Equity Capitalisation (% of GDP)</td>
<td>$196 bil (200%)</td>
<td>$414 bil (242%)</td>
<td>47.3%</td>
</tr>
<tr>
<td>Debt Market Capitalisation (maturity&gt; 1 year) (% of GDP)</td>
<td>$17 bil (17%)</td>
<td>$43 bil (25%)</td>
<td>68%</td>
</tr>
<tr>
<td>Number of listed companies</td>
<td>294</td>
<td>638</td>
<td>46%</td>
</tr>
<tr>
<td>Total domestic loans (% of GDP)</td>
<td>$85 bil (87%)</td>
<td>$293 bil (171%)</td>
<td>29%</td>
</tr>
<tr>
<td>Total external debt (% of GDP)</td>
<td>$10 bil (10%)</td>
<td>$37 (22%)</td>
<td>27%</td>
</tr>
<tr>
<td>Total offshore loan (% of GDP)</td>
<td>$42 bil (43%)</td>
<td>$237 (139%)</td>
<td>17.7%</td>
</tr>
<tr>
<td>Max foreign ownership of banks</td>
<td>40%</td>
<td>100%</td>
<td></td>
</tr>
<tr>
<td>Currency convertibility</td>
<td>Partly controlled</td>
<td>Open</td>
<td></td>
</tr>
<tr>
<td>Corporate Banking</td>
<td>$98 bil (100%)</td>
<td>$160 bil (94%)</td>
<td>61.2%</td>
</tr>
<tr>
<td>Domestic corp. loans (% of GDP)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Businesses (in US$)</td>
<td>Singapore</td>
<td>Hong Kong</td>
<td>Ratio Sing/ HK</td>
</tr>
<tr>
<td>---------------------------------------------</td>
<td>-----------</td>
<td>-----------</td>
<td>----------------</td>
</tr>
<tr>
<td>Non-performing loans</td>
<td>5-11%</td>
<td>5%</td>
<td></td>
</tr>
<tr>
<td>Retail Banking</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total consumer deposits (% of total deposits)</td>
<td>$34 bil (40%)</td>
<td>$104 bil (30%)</td>
<td>32.7%</td>
</tr>
<tr>
<td>Total consumer loans (% of total loans)</td>
<td>$33 bil (38%)</td>
<td>$90 bil (31%)</td>
<td>36.7%</td>
</tr>
<tr>
<td>Persons per ATM</td>
<td>1600</td>
<td>1600</td>
<td></td>
</tr>
<tr>
<td>Credit cards per capita</td>
<td>0.6</td>
<td>0.8</td>
<td></td>
</tr>
<tr>
<td>Asset Management</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Retail assets under management</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total domestic institutional assets</td>
<td>$2.4 bil</td>
<td>$22 bil</td>
<td>10.9%</td>
</tr>
<tr>
<td>Number of asset management firms</td>
<td>$88 bil</td>
<td>$40 bil</td>
<td>220%</td>
</tr>
<tr>
<td></td>
<td>17</td>
<td>84</td>
<td></td>
</tr>
<tr>
<td>Trading</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ave daily trading volume</td>
<td>$0.3 bil</td>
<td>$1.9 bil</td>
<td>15.8%</td>
</tr>
<tr>
<td>Number of Stock Brokerage firms</td>
<td>41</td>
<td>252</td>
<td>16.3%</td>
</tr>
<tr>
<td>Ave daily FX trading volume</td>
<td>$139 bil</td>
<td>$79 bil</td>
<td>176%</td>
</tr>
<tr>
<td>Investment Banking</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total equity issuance (1994-7)</td>
<td>$2.5 bil</td>
<td>$11 bil</td>
<td>22.7%</td>
</tr>
<tr>
<td>Total debt issuance (1994-7)</td>
<td>$5.7 bil</td>
<td>$17 bil</td>
<td>33.5%</td>
</tr>
<tr>
<td>Number of domestic M&amp;A transactions (&gt;50 mil)</td>
<td>64</td>
<td>172</td>
<td></td>
</tr>
<tr>
<td>Potential private banking assets</td>
<td>$29 bil</td>
<td>$220 bil</td>
<td>13.2%</td>
</tr>
<tr>
<td>Private Banking</td>
<td>8378</td>
<td>55000</td>
<td>15.2%</td>
</tr>
</tbody>
</table>

Analysis. Several important insights could be gained from this comparison.

- Compared to Hong Kong, Singapore has a larger market in terms of daily foreign exchange trading, 176% that of Hong Kong in absolute size. This means that Singapore should leverage on its lead, and continue to grow this area. If we relate this to the earlier analysis about the need for firms to hedge against future uncertainty in foreign currency denominated loans by regional countries- this is a potential niche for Singapore.
• In terms of debt and equity market capitalisation, Singapore has reached a comparable size to Hong Kong as a percentage of GDP. Singapore has a slight edge in the debt market (25% versus 17%), largely due to the longstanding Asian Dollar Market, but lag behind in the equity market (200% versus 242%). Two possible courses of action exist here: develop and strengthen the debt market to coincide with domestic and regional recovery needs, and expand the equity market as a means to diversify the sources of financing, and to build up more knowledge and expertise in equity markets.

• From an institutional point of view, Singapore banks are still protected by government regulation in terms of ownership, while Hong Kong does not have any restriction on ownership. With WTO deregulation of financial services and opening up of banking sectors, there may be scope for Singapore banks to grow through mergers and acquisitions (or be acquired), which would in turn stimulate the overall growth of the banking sector. In addition, the absence of Hong Kong regulation on convertibility of currency could be its strength. Singapore has been more conservative, fearing that internationalising the Singapore dollar may undermine the principle of stability of the currency. In the face of competition, Singapore may be faced with few options.

• The relatively large size of institutional assets in Singapore could be tapped further through greater efficiency and higher turnover of assets. A possible model of how capital has been made to work harder could be based on the US system.
• Hong Kong has been the main source of investment into China, principally through joint venture arrangements. As China’s exports grew, Hong Kong’s role as the major trading intermediary grew in tandem. Although the financial systems were significantly different, Hong Kong acted as an excellent interface for China, providing both the instruments and the outlet for China’s foreign dealings through the Bank of China in Hong Kong. It is therefore not surprising that the Hong Kong’s financial market has grown in scale and scope. Hong Kong’s financial institutions outnumber Singapore’s especially in the fields of asset management (84 firms versus 17 firms) and stockbroking (252 firms versus 41 firms). With more market participants, the breadth and depth of financial markets helped to generate a sustained level of activities. Consequently, the level of competition and sophistication was likely to be higher. More importantly, Hong Kong still attracts a high number of talented fund managers to work there, thereby enriching the pool of financial expertise, which is crucial in a knowledge-based economy. For Singapore, success in developing the depth of the talent pool would be highly desirable to form the critical mass for very high growth. Hong Kong is also successful in its private banking sector, which is very lucrative.

In summary, Singapore is an established financial centre with strengths in macroeconomic environment, a high concentration of financial institutions that provide a great deal of synergy and dynamism in financial activities. Singapore is stronger in the Asian Dollar Market and forex trading, and has great potential for institutional banking to

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grow further. There is room for improvement for local banks (over-protected), asset management and talent attraction to raise the level of competitiveness.

3.3.2 Factor Analysis. Capital, by itself, is considered a basic factor by Porter. However, in the wave of consolidation of banking institutions, size and market capitalisation are very important considerations when we consider the strategic competitiveness of banks. The number of big local banks in Singapore may be small due to the size of the domestic market, but in terms of number of foreign bank present – there is considerable synergy to be derived from this high concentration. (See table 3.3 below)

<table>
<thead>
<tr>
<th>Country</th>
<th>Local Banks (&gt; $5 bil)</th>
<th>Foreign Banks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Japan</td>
<td>123</td>
<td>101</td>
</tr>
<tr>
<td>Korea</td>
<td>25</td>
<td>53</td>
</tr>
<tr>
<td>Taiwan</td>
<td>25</td>
<td>45</td>
</tr>
<tr>
<td>China</td>
<td>16</td>
<td>13</td>
</tr>
<tr>
<td>Hong Kong</td>
<td>10</td>
<td>157</td>
</tr>
<tr>
<td>Thailand</td>
<td>8</td>
<td>21</td>
</tr>
<tr>
<td>Malaysia</td>
<td>8</td>
<td>13</td>
</tr>
<tr>
<td>Indonesia</td>
<td>8</td>
<td>10</td>
</tr>
<tr>
<td><strong>Singapore</strong></td>
<td><strong>7</strong></td>
<td><strong>140</strong></td>
</tr>
<tr>
<td>Philippines</td>
<td>3</td>
<td>14</td>
</tr>
</tbody>
</table>


A higher turnover of assets would mean that Singapore banks would be able to increase the revenue and generate more business. On the other hand, the stringent regulations to ensure that the banks are liquid would mean that a higher premium would have to be placed making those available capital work harder. Anecdotal evidence shows that Singapore banks do not have a regional or global presence as these banks tend to be domestically oriented. Unlike Citicorp (whose equity is in excess of $50 bil) or Morgan
Stanley ($15 bil), their global presence in Asia is significant. Singapore banks would have to devise a way to compete in niches that they could have a distinct advantage, rather than to compete head-on. To have a greater regional presence and customer base, these banks now have to venture abroad more aggressively to understand customer needs. With limited resources, banks have to target specific segments, particularly after the financial meltdown when new opportunities would emerge. To compete effectively, investments in building hardware, such as financial infrastructure and operating systems using telecommunication networks and Internet, are critical. Software is also equally important. The knowledge worker in finance must also be equipped with tools and software support in financial technology to operate in the fast-moving environment. With skills as the only source of sustainable competitive advantage, Thurow (1995) observed that it was those who can “organise the brainpower” that would capture the location of knowledge-based industries.\(^{10}\) While location per se may be less strategic in an information age, combining capital investments in infrastructure with grooming talent may represent the best way to expand Singapore’s position in Asia.

From a human resource allocation viewpoint, the commitment to finance and business services has risen from 10.9% in 1993 to 15.7% in 1998. (See Table 3.4) Allocating resources is not enough; this has to be accompanied by better vocational opportunities.

| Table 3.4  Occupational Distribution in Singapore |
|-----------------|---------|---------|---------|
| Total          | 1,592    | 1,830   | 1,870   |
| Employment Structure by Functions |         |         |         |         |
| Admin & Managerial | 167     | 230.2   | 239.1   |
| Professional & Technical | 321.4   | 483.8   | 504.4   |
| Clerical, Sales & Services | 449     | 506.9   | 515.1   |
| Production & Related | 589.9   | 546.3   | 547.6   |
| Employment Structure by Industry |         |         |         |         |
| Manufacturing   | 429.5    | 414.1   | 404.4   |
| Construction    | 102.1    | 126.1   | 131.3   |
| Commerce        | 363.6    | 398.2   | 400.1   |
| Transport & Communications | 166.8   | 210     | 206.4   |
| Financial & Business Svcs | **173.4** | **273.5** | **292.8** |

Capacity in education in finance, business studies, and accounting have been expanded recently to meet future demands. Interestingly, just as there was a concentration of foreign banks during the initial years, the approach in building up human resource is to step up the presence of top universities in Singapore. Tying up with top business schools like MIT-Sloan, Stanford and INSEAD create opportunities to learn and interact with the best, as well as developing a global perspective. The latest move included inviting the Wharton School to help set-up the Singapore Management University, and to boost undergraduate intake in business administration by 50%.¹¹ Singapore hopes to further increase its level of education of its workforce to meet the rising demands of being a leading financial hub. By creating a top-class financial learning environment, Singapore could attract more foreign talent to study and seek employment after graduation. Once a critical mass of markets, talent and expertise could be formed, Singapore’s position as the regional hub could be more secure.
Apart from maximising the utility of capital, investing in infrastructure and people, innovation is equally important. Singapore has been occasionally been criticized for its lack in total factor productivity and lack of innovation.\textsuperscript{12} By allocating resources and creating a cluster of financial institutions and an environment that rewards creativity and excellence, Singapore can look forward to reaping the fruit of these efforts in the medium term. The traditional approach to learning and rote learning in schools have to make way for adaptive learning and to push new ideas into the market place. With the Internet opening up the knowledge base and freer flows of ideas, learning and creating knowledge has become easier.

3.3.4 Demand Analysis. Porter (1990) noted that the composition of home demand is at the root of national advantage, while size and pattern of demand can amplify this advantage by affecting investment behaviour, timing and motivation. For Singapore, despite a small population base, in terms of retail and corporate banking, the domestic market in has reached a high level of sophistication. This will help drive the standards of service higher. Corporate banking in Singapore remains attractive, although the customer base is segmented. The larger corporations such as Singapore Airlines, Cycle and Carriage and Singapore Telecommunications could demand the same level of pricing and services as the western multinationals at high end of the scale, again putting pressure on local financial institutions to perform. Serving small retailers, importers and service

\textsuperscript{11} SMU Website. The first business administration programme will commence in July 2000. Additionally, Wharton and SMU have extended their co-operation by signing the Research Centre Collaboration Agreement.

\textsuperscript{12} Alwyn Young, "A Tale of Two Cities". MIT 1992.
businesses could be lucrative. These businesses tend to be less in sophisticated their needs, and banks could charge a higher spread to cover the higher risks and lower credit ratings. At the institutional level, there are opportunities for the institutional investors, insurance firms, local commercial banks, large quasi-governmental funds and corporate pension funds. The system of mandatory savings fund (known as the Central Provident Fund) has generated $51 bil in investable assets, and prudent fiscal policies have raised $70 bil in foreign reserves. Collectively, this meant that institutional investors could have access to at least $120 bil of quasi-governmental investment opportunities in Singapore. In practice, however, only about 5% of the funds were available to private sector investors as the bulk of the investment was managed by the Government of Singapore Investment Corporation (GIC). By increasing the ratio further, more investment houses may express interest in managing these funds.

3.3.4 Related industries. The excellent telecommunications hub in Singapore meant that access to international banking is readily met. The Internet infrastructure is also constantly upgraded to provide broadband and wireless access, aimed at increasing the throughput of e-commerce transactions.

Judicial efficiency measured on a scale of 0 to 10 with 20 observations from Business International Corporation as cited by LLSV\textsuperscript{13} showed that Indonesia scored 2.5 (worst) while Singapore scored 10. The excellent governance has helped to avoid some of the agency problems, which were experienced in Thailand and Indonesia, and protected the
firms' value during the crisis.\textsuperscript{14} Enforceability of contracts and protection of minority shareholder rights were assured in Singapore, which helped to maintain financial order and reduce the incentives for default on loans, and cushioned the effects of dumping of firms' shares, respectively. As a result of the confidence in the legal system and bankruptcy provisions, the panic that gripped investors trying to recover their investments in Thailand and Indonesia was absent in Singapore. Singapore firms did not face the surge in the claims on their assets, reducing the risks of default significantly. Banks in turn were shielded from the destabilising effects of a large non-performing loans in their portfolio. Although Singapore scored relatively for its banking sector performance and adequacy of accounting and legal systems, it cannot take for granted that this would be so in future. Bankruptcy and insolvency procedures would need to be improved upon to make the Singapore system more robust.

3.3.6 Regulation and Public Institutions. Singapore has consistently topped the annual ranking in the Political and Economic Risk Consultancy (PERC) survey of key political and economic institutions in Asia.\textsuperscript{15} This was not really a surprising development given the stability of Singaporean society and the way its institutions have reacted to the financial crisis that swept across the region in late 1997. The Monetary Authority of Singapore (MAS), the de facto Central Bank, performed well. The 1999 survey noted that "response of the MAS to the regional currency crisis is widely regarded as being

\textsuperscript{13} La Porta, Lopez-de-Silanes, Shleifer and Vishny 1998. "Law and Finance". P 1113-55.
\textsuperscript{14} Simon Johnson. Corporate Governance In the Asian Financial Crisis. MIT Macroeconomics Seminar. 1999. Pg. 25, and 30-1.
\textsuperscript{15} PERC (28 Jul 1999) "Evaluating Singapore's National Institutions"
entirely appropriate and well-measured”. Singapore’s stock market regulators continued to be well received by PERC survey respondents.

As regards government regulatory policies, the Monetary Authority of Singapore has operated on the centralised model, covering both banking and financial markets, as well as acting as the de facto central bank. The regulatory model was a straddle between very tight supervision on the local bank and a more relaxed stance on foreign banks. This was motivated largely by the need to ensure the financial stability of local banks. In comparison with the Japanese system, the wide regulatory coverage and control over the financial industry was similar to that of the Ministry of Finance (MOF). For instance, MOF has been given the charter to revamp their financial system by 2001 to expand the role of financial markets and institutions in supporting the economy. Post crisis, MAS’s “Big Bang” comes in the form of reviewing and liberalising the banking sector, and consolidating the exchanges in Singapore. As regards offshore banking, the model is closer to that laissez-faire, where regulations and tax regime were kept as light as possible to make it worthwhile to attraction foreign participation. The emerging question is whether the approach of tight regulation and protection given to local banks has reach the end of its life cycle, and whether a new one is needed to respond to changing times.
3.4 SUMMARY

The internal scrutiny shows that Singapore is in a strong position to compete as an international financial sector. To meet the requirements of the future international financial centre, we need to look at the past and the present. In Chapters 2 and 3, we developed the background situation to the Asian crisis, and also conducted an internal scrutiny of Singapore’s strengths and weaknesses to form a general picture of the present status of the financial sector. For the banking sector, the challenge for MAS is to adapt to the new circumstances and define a new working framework that would shifts away from micro-management and to empower local banks to manage their activities and risks.

CHAPTER 4

STABILITY OF THE BANKING SYSTEM

4.1 DEVELOPMENTS AT INTERNATIONAL LEVEL

This Chapter will examine the stability of the banking system, taking reference from the international initiatives undertaken and applying it to the Singapore context. While greater emphasis will be placed on the regulatory aspects, it is recognised that advances in electronic banking will have a significant impact on the shape of the banking industry. The latter aspect will be discussed more fully in Chapters 5 and 6.

After the outbreak of the crisis, the battered regional economies attempted to control the impact of the spreading contagion. Numerous working groups and forums were held to find solutions to the contagion. Questions revolving round global governance of a global economy and the inadequacies of the existing international architecture in handling crises were thrown up. The Eichengreen (1999) approach was probably most realistic: we need to acknowledge the difficulty of establishing a global governance structure (given the diverse national interests, sharing of power and overlapping jurisdiction over policy matters and funding). It was argued that financial crisis could be better managed if an issue-based approach was adopted, rather than setting up structures and organisations to solve the world’s problems. By taking an issues-based approach progress could be made in a focused manner, in response to the needs of the prevailing situation. These issues could be grouped under 3 main areas: strengthening of domestic financial system, transparency and accountability and managing international financial crises. The work of
international regulatory and standard setting bodies played an active role in developing responses. For instance, the Basle Committee on Banking Supervision developed the preconditions for effective banking supervision; licensing and structure of bank; prudential regulations and requirements and cross-border banking supervision in what is commonly known as the “Core Principles”. The International Organisation of Securities Commission (IOSCO) focused on setting out regulatory guidelines to protect investors, ensuring markets are fair, efficient and transparent and the reduction of systemic risks.\(^1\) While IMF continues to develop the international mechanism to provide early warning and refine the well-publicised “IMF package” that has characterised its rescue efforts.

4.1.1 Logic of International Harmonisation. Adhering to an international norm serves two important purposes. First, international harmonisation of capital requirements helps to strengthen the banking system to meet the demands of growing interdependence and trading activities. Key to the strengthening of the domestic financial systems is the implementation of sound practices for supervision, settlement, accounting and disclosure. This requires close international cooperation and collaboration at both the official and private sectors. Next, it also helps to reduce the scope for regulatory arbitrage, where foreign banks would locate their operations in less stringent regulatory regimes. This is to Singapore’s advantage as a level playing field could be established, and banks could then compete using market-driven strategies, products and services at competitive prices.

4.2 ROLE OF MONETARY AUTHORITY OF SINGAPORE

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\(^1\) See IOSCO (1998) “Objectives and Principles of Securities Regulation”
We next turn to the role that MAS has played in ensuring the stability and growth of financial sector in Singapore. The main concerns centre on the banking regulatory framework, and the shift towards capital markets to provide an alternative source of financing as identified in Chapter 2.

MAS has always played a central role in ensuring the stability and overseeing the developing of the financial sector. Even before the crisis hit, MAS moved to deflate the property bubble on 15 May 1996 by restricting credit and funding supply, thereby reducing the impact of hard crash in asset-prices. As the de facto central bank of Singapore, MAS has also established its credibility in conducting monetary and exchange rate policies. At the operational level, MAS also serves as the banker’s bank by maintaining their current accounts, and acts as the government’s bank (which enables it to issue government treasury bonds). With a strong foreign reserve accumulated, confidence in MAS as a central bank was high.

4.3 STABILITY OF BANKING SECTOR

Much of the stabilising effect was due to the introduction and adherence to the Banking Act, which was based on the 1988 Basle Accord. MAS insisted that banks maintain a:

a. minimum cash balance with MAS of not less than 6% of the total liquidity base (this requirement has been reduced to 3% in 1998);

b. minimum amount of liquid assets of not less than 18% of total liabilities base.²

As part of the effort to achieve a high standard in banking practices, MAS required both
local and foreign banks have to audit, and adequate provisions for bad or doubtful debt were required before profit could be declared. MAS undertook the task of limiting banks' portfolio risks and ensuring capital adequacy seriously, verging to the extent of micro-management. The upside of this approach was that efforts could be effectively directed at detecting any inadequacy in the accounting or internal control system before banking distress could take root. Prior to 1992, the international norm was such that the minimum capital standards was uniformly applied to all banks, with no recognition of any differences in their levels of their investment risks.

4.3.1 In Search of a New Framework. Post-crisis, MAS was in search of a new framework to boost the competitiveness of the banking sector, whilst maintaining high prudential and supervisory standards. The basic belief that a sound financial system should be established before liberalisation can proceed remains valid. The ill-fated Bangkok International Banking Facility was an example where financial and capital account liberalisation took place before strengthening the prudential framework.\(^3\)

On 3 June 1999 the Basle Committee on Banking Supervision issued a proposal for a new capital adequacy framework to replace the 1988 Accord. The new capital framework consisted of three pillars - minimum capital requirements, a supervisory review process, and effective use of market discipline. Collectively they would help to induce more efficient use of capital, better risk management by financial institutions and improved

disclosure, which should lead to a safer, more efficient financial system. MAS has adopted many of the recommendations in its policy formulation.

4.3.2 Risk-Based Bank Supervision. The new MAS framework sought to shift from regulation to supervision whereby greater emphasis would be placed on monitoring and examining institutions for compliance with laws and guidelines, and assessing asset quality and the adequacy of risk management system. The Basle Core Principles advocated that “banking supervision must be satisfied that banks have in place a comprehensive risk management process (including board and senior management oversight) to identify, measure, monitor and control all ... risks to hold capital against these risk”\(^4\). By MAS adopting this principle, the supervision moved away from the traditional bottom-up method of reporting by banks to a risk-focused top-down approach. MAS would be able to focus its resources to major risk areas and improve the effectiveness and efficiency of the examination process. This was part of the early warning or preventive mechanism to allow MAS time to respond to banks that may experience financial distress. With this shift, banks would be better off if they upgraded their risk management systems, given the increasing complexity in banking activities and organisational structures.

4.3.3 Elements of Risks and Control Measures. The risk control system would need to manage a whole range of risks, ranging from credit, interest rate, foreign exchange,

\(^4\) See also Buljevich and Park “Project Financing and International Financial Markets” for rationale behind risk based capital adequacy, which was in part in response to the explosion of off-balance activities by commercial banks. 1999. Pg. 77-81.
liquidity, operational to reputation risks. Since these risks are often inter-dependent, banks need to develop a system to take into account the net effect and exposures through real-time monitoring and control. In particular, the crisis revealed the risks of relying extensively on short-maturity borrowing, which exposed banks to short-term interest rate basis risks. Coupled with weakening foreign exchange, banks could not match their foreign denominated debt. Additionally, it was essential to factor liquidity risks as the currency market meltdown caused a significant reduction in liquidity, depressing asset prices further. The essence of forming an integrated picture of the risk exposures is that banks could take adequate precautionary measures to hedge out these cumulative risks to stay solvent in a crisis.

4.3.4 Need for Tools and Expertise. We have discussed the primacy of the stability of the banking sector before allowing liberalisation. As a result, a decentralised approach will engender a more pro-active approach by the local banks – thereby speeding up the process, as well as increasing the levels of ownership in stabilising the banking system. In order to develop a greater degree of sophistication, financial institutions would need to invest in risk evaluation tools (notably Value-At-Risk (VAR) models and stress tests). Both management of institutions and regulators would need to use the information obtained from the evaluation to avert systemic risks.

As the VAR methodology was recently proposed, the debate on the best way to proceed was still ongoing. Kupiec and O'Brien (1997) discussed the recent developments in the VAR approaches and their effectiveness in measuring the overall risk profile of a bank. A
major benefit of VAR was that it allowed the bank the freedom to determine the relative risk of individual positions, which may otherwise be distorted by the capital requirements.\textsuperscript{5} This method would reduce the inefficiency of resource allocation under the standardised capital requirement regulation, as well as reducing the reporting burdens. The effort needed to set up the risk measurement model and the choice of parameters used to calibrate the risks is substantial. To date, MAS is supplying the numerical models for the local banks to help them transit into the new framework to initiate the process. Eventually, these models would need to be \textit{internally} developed by banks, and this would form a proprietary knowledge base to measure their risk exposure. Regulators would then have a basis for setting the capital charges for the market risks which banks are planning to take. Between the declaration to shift from a standardised (one-size-fits-all) capital adequacy requirement approach to a VAR approach, the implementation would require a significant amount of capability build-up, knowledge acquisition by planners and risk measurement departments and setting up the supporting system. Given the accelerating speeds in deregulation globally, local banks have to learn very quickly to develop these internal risk measurement models specialised to efficiently measure risks that the banks face to remain in the race.

On the issue of maintaining minimum cash reserves, one should recognise that there could be a cost associated with this requirement. Theoretically, the new risk-based capital ratio methodology places less emphasis on the numerator side of the equation (containing

capital components), and more on the denominator (which includes both balance sheet and off-balance sheet items⁶). On one hand such prudential measures help to lower the risks, since banks might otherwise have increased their loans exposure, thereby reducing their costs of capital when banks borrow. On the other, intense competition from foreign banks with lower regulatory standards may have the edge over local banks.

The significant issues of whether capital requirements hurt bank profitability and leveling the playing field for banks remain open for debate.⁷ While the benefits of ensuring the larger systemic stability, this may disadvantage smaller banks especially when they have to compete head-on with larger banks with deeper resources. This could potentially put smaller Singapore banks at a weaker position in the face of global competition. By adopting a value-at-risk (VAR) portfolio risk management, it would be possible to lower the minimum capital requirements. The recent reduction to 3% requirement of cash reserves was a significant move intended to free cash reserves for more optimal deployment. As a corollary, we could expect banks to engage in more trading activities, over and above the traditional loans and services, reinforcing the notion that capital and derivatives markets have to develop in tandem. Nevertheless, the concern that financial institutions taking on more risks to make their capital work harder to earn higher (albeit risk-adjusted) return remains.

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⁶ Off-balance sheet activities tend to include mainly fee-based intermediary services, such as loans servicing advice, trading of swaps, options, foreign exchange forwards, that do not involve booking assets and liabilities. Banks, if unchecked, could over-extend themselves to riskier transactions like off-balance sheet bank guarantees and commitments, which may be hidden from supervision and monitoring.
4.3.5 **Safety Nets?** Singapore banks are fundamentally sound and have a high level of reserves, and credit ratings for the larger banks such as DBS and OCBC are in the A+ to AA2 range by leading credit rating agencies such as Moody. The main underlying reason for the strong confidence lies in the relatively high capital ratios which local banks maintain. For instance, in 1998 DBS and OCBC total capital ratios are 15.6% and 20.1%, which is much higher than the 8% requirement set by BIS.⁷

At a time when moral hazard issues stand out from the analysis of the Asian crisis, it may seem out of place to consider the role of safety nets. Yet, as the guidelines for reduced adequacy ratios have been reduced, and banks have been urged to take on more calculated risks to make capital work harder – the unintended consequence may the increase in probability of bank distress. While it is beyond the scope of this paper to test the econometric relationship between safety nets (e.g. deposit insurance) and overall banking system stability, it may be useful to think through the utility of such an arrangement. Kaufman (1996) in his analysis of systemic failures of bank noted that bank depositors tended to be aware of the “unique fragility of banks” in the absence of deposit insurance. If they perceived a shock to their banks to be sufficiently great to threaten a solvency of those banks, we could expect bank runs.⁹ Banks have to sell their assets to meet the payments of these depositors, and could create liquidity problems and amplify the shock to the banking system at the aggregate level. Within the bank level, Garten (1994) argued

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⁸ Annual Reports (1998)
that deposit insurance reduced the volatility of deposits as a source of funds, and by shifting the risks from deposits to the Federal Deposit Insurance Corporation (FDIC) in the US, the risk premium paid by banks to attract deposits could be reduced.\textsuperscript{10} Miller (1995) disagreed that the moral hazard problems outweigh the benefits of providing the assurance; such schemes were essentially a put option where the owners take the gains while the insurers take the losses. In the Saving and Loan incident in the early 80’s, Congress raised the limit of guarantee from $10 000 to $100 000 \textit{per account}, which opened up the fund to speculative abuses – and the costs of bailing out was very high.\textsuperscript{11} 

Nevertheless, the political reality of bank runs could spell trouble for governments. It is interesting to note that USA, EMU states and Japan have adopted an explicit deposit insurance approach. (See Table below)

<table>
<thead>
<tr>
<th>Africa</th>
<th>Asia</th>
<th>Europe</th>
<th>Middle East</th>
<th>Americas</th>
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<tbody>
<tr>
<td>Kenya</td>
<td>Bangladesh</td>
<td>All EMU states</td>
<td>Bahrain</td>
<td>Argentina</td>
</tr>
<tr>
<td>Nigeria</td>
<td>India</td>
<td>Austria</td>
<td>Kuwait</td>
<td>Brazil, Canada</td>
</tr>
<tr>
<td>Tanzania</td>
<td>Japan</td>
<td>Bulgaria</td>
<td>Lebanon</td>
<td>Chile, Columbia</td>
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<tr>
<td>Uganda</td>
<td>Micronesia</td>
<td>Czech Rep</td>
<td>Oman</td>
<td>Dominican Rep</td>
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<td></td>
<td>Marshall Is</td>
<td>Denmark</td>
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<td>El Salvador</td>
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<td></td>
<td>Philippines</td>
<td>Greece</td>
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<td>Mexico, Peru</td>
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<td></td>
<td>Taiwan</td>
<td>Hungary</td>
<td></td>
<td>Trinidad/Tobago</td>
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</table>

Source: Garcia (1998)

To date, Singapore has not explicitly provided safety nets such as deposit insurance – largely because the banks have been tightly controlled and are well capitalised. When we

\textsuperscript{9} Kaufman (1996) “Bank Failures, Systemic Risk and Bank Regulation” Cato Journal Vol 16, No1. Eichengreen (1999) op. cit. also supports the idea of some form of safety net, but was careful to highlight the moral hazard problem.


consider the consolidation model which MAS is advocating, there may be a case to consider some form of protection, although not necessary full deposit insurance – and not necessarily to be guaranteed by the government alone.

4.3.6 **Cross-border Banking.** As cross-border trade and financial activities increase with greater regionalisation and globalisation, banking supervisors must also practice global consolidated supervision over their internationally active banking organisations, primarily at their foreign branches or subsidiaries. Bank supervisors will require local operations of foreign banks to be conducted to the same high standards as are required of domestic institutions. Together, these measures help to reinforce the region/international banking system. In theory, this should work, but since different countries have different disclosure and accounting standards it would be difficult to enforce in practice. This would be a potential issue, as banks may have to incur higher costs of compliance in order to satisfy both sets of requirements. The regulatory standards should eventually converge to a “best practice” model, and complacency or lapses at local branches could be eliminated. In the interim, Singapore banks operating overseas would need to exercise prudential judgement in complying with the requirements, and not be tempted adopt the lower of the two requirements.

4.3.7 **Impact of Technology.** The basic functions of banking, both domestic and cross-border transactions, remain relevant in the future. However, the way the operations and transactions are carried out will have to change in tandem with technological advances. Globalisation and electronic delivery channels have disrupted the old landscape, causing
banks to devise new strategies to compete or die. Banks that scramble to build or expand existing electronic banking infrastructure will stand to reap the numerous benefits that technology brings. In Chapter 5 we will examine how banks can use technology to their advantage. As spread online trading infrastructure continues to accelerate, both regulators and banks will have to think global and find new ways of competing and conducting business.

With online technology enabling cross-border transactions at a touch of a click, regulators quickly find the capital will flow to the places with minimal or taxation. Places like Cayman Islands are growing very rapidly as international financial centres because of their very competitive tax treatment and privacy laws. Regulators will face several immediate challenges. Banks will be asking for more latitude to borrow and lend overseas in search of best profit margins, and the traditional barriers in dividing domestic and offshore customers may have to be lowered to engender growth. First, this could lead to some degree of internationalisation of the domestic currency, which might undermine the macro-policies in stabilising the exchange rates. A second problem concerns the difficulty in monitoring banking activities to ensure that they are not overly exposed will become more difficult despite having more information. As more innovative financial products are devised to meet the demands in the online markets, and banks undertake to market such products to boost margins, it is critical that regulators continue to upgrade their monitoring capabilities to be able to effectively preserve the stability of the banking system. Last but not least, it is unclear who owns the Internet, and whether it is at all possible to regulate something where one does not have any jurisdiction. In the near
future, it is not inconceivable that “virtual banks” could be set up overnight in Internet space, and not subjected to any national or local jurisdiction but able to provide services that exactly replicate those offered by bricks and mortar banks at much lower costs.

Notwithstanding these challenges ahead, the banking sector in Singapore has to regroup quickly, leverage financial and electronic technology to remain a key international financial centre. The crisis has offered some breathing space for local banks to reinvent themselves to meet the competition from global players.

4.4 PROMOTION AND LIBERALISATION

Apart from its supervisory function, MAS also promotes the financial services sector. This is rather unusual in that one would expect some separation of functions, but it is this intimate understanding of the current and future requirements that regulations could be crafted so as to create a pro-business environment. At the same time, the close integration with tax policies and economic development policies has helped MAS to grow the sector. The government cannot drive the process alone – the private sector has to respond and participate actively as well.

4.4.1 Opening Up the Local Banking Sector. The protection offered by MAS ensured that no new licenses for full and restricted banks have been granted since 1970 and 1983 respectively. Foreign full banks are not allowed to set up new branches or re-locate existing branches; install off-premise ATMs or share ATMs with other banks; or offer
Electronic Funds Transfer at Point-of-Sale (Eftpos) services. However, local banks have not been as aggressive in investing in new technology, and lag behind foreign banks in expertise, range and quality of service to customers, and shareholders’ returns. Deputy Prime Minister, MAS Chairman, BG Lee Hsien Loong saw the need to liberalise Singapore’s commercial banking sector urgently, “rather than try to keep out change and lose both time and initiative”\textsuperscript{12}. By managing the introduction of foreign competition, local banks will have both the incentive and the time to adjust to the new banking landscape. Overall, local banks will become more sophisticated in meeting customer needs and more competitive.

4.4.2 Key Initiatives. The essence of the liberalisation package was to open up the banking sector, and moving away from protecting the local banks. This is a fundamental shift, and with greater competition local banks would have to be leaner and find new ways to compete in the market. The old cozy environment has gone, and local banks now have to learn and upgrade rapidly before they start to lose market share to the competition. It would also put more pressure on cost control, whilst continuing to innovate to deliver better customer-focused services. A summary of the liberalisation package could be found below:

<table>
<thead>
<tr>
<th></th>
<th>Key Initiatives of Banking Liberalisation Package</th>
</tr>
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<tbody>
<tr>
<td>1</td>
<td><strong>Liberalisation (From 1999-2001)</strong>&lt;br&gt;• Up to 6 foreign banks will be granted Qualified Full Bank (QFBs) privileges. The privileges allow QFB to have additional branches and off-premises automatic teller machines (ATMs), and to share ATMs amongst themselves.&lt;br&gt;• The number of Restricted Bank licenses will be increased from the current 13 to 18, to cater to offshore banks with interest in wholesale S$ banking.&lt;br&gt;• All offshore banks will have their S$ lending limits increased to S$500 million (US$300 mil). Offshore banks with QFBs can lend up to S$ 1 billion (US$ 600 mil).</td>
</tr>
<tr>
<td>2</td>
<td><strong>Improving Corporate Governance</strong>&lt;br&gt;• All local banks to appoint Nominating Committees to ensure that only competent individuals are appointed to the board and key management positions.</td>
</tr>
<tr>
<td>3</td>
<td><strong>Lifting Current 40% Foreign Shareholding Limit of Local Banks</strong>&lt;br&gt;• The current 40% foreign shareholding limit will be lifted, and local banks will be allowed to merge their local and foreign share tranches.</td>
</tr>
</tbody>
</table>

We should see the liberalisation as one part of a larger strategic picture. While regional banks are struggling, Singapore banks should capitalise on the time to re-group and prepare for the next bound. By opening up banks for greater foreign ownership, banks could grow both in size, range of expertise and tap into a wider customer base. Given the relatively inward orientation of local banks, the influx of new ideas, people and customer knowledge would add to the critical mass. However, to sustain the presence of greater foreign participation in view of technological erosion of geographic advantages, banks will have to seek to extract value from the value chain in innovative ways.

4.4.3 **Domestic Consolidation: 2+1 Model.** In conjunction with the industry liberalization, the MAS has intimated that it expects consolidation among the local banks. Industry research suggests that the minimum required size for banks to attain economies of scale and remain competitive is S$50 billion to S$70 billion in total assets.¹³ Still, this

is a small in comparison to banks in the US when we consider global-class competition. Giants like Citicorps has to merge with Travelers to become a $49 bil revenue business using an asset base of nearly $700 bil, integrating the wide range of banking activities and expertise.\textsuperscript{14} Citigroup is now in a position to be an industry shaper. Likewise in Asia, Japanese banks were also consolidating to increase their critical mass to compete in the global market. The Mitsubishi and Tokyo Bank merger brought both banks to the top spot in the Asia 500 banks, giving the new entity considerable resources and geographical reach.

The issue for local banks is whether bigger is better? Smaller countries like Switzerland and the Netherlands that have liberalized the financial sector have migrated towards a domestic bank structure characterized by either two large local banks, or "two big plus one small" model. The trend is a compelling one – the big ones have merged to form the critical mass to be an industry shaper, while small ones have to respond in order to remain competitive. With electronic technology, banks that have the foresight and resolve to invest creating the right distribution channels will win significant market share. Merging to pool resources together seems to be a logical extension of the competition to seize market share. Additionally, the confluence of factors (regional bank restructuring, technological possibilities and the strategic aim to expand) means that concentration of effort matters. To realise this model, the industry has to recognise that Singapore is unlikely to be able to sustain more than two local banks with the critical size, although

\textsuperscript{14} Citigroup 1998 Annual Report. As part of the Sloan Fellows Study Visit to New York in Dec 1999, we met Mr John Reed, CEO of Citigroup. He highlighted to us the need to achieve size in the banking industry as it gave him tremendous flexibility to shape the industry, and adequate resources to implement plans.
there may be smaller players occupying niche markets. Such a structure, which comprises two or three local banks, creates the scale to invest and compete with world-class foreign banks while engendering sufficient local competition to ensure competitive pricing and encourage industry innovation. An added benefit of growing bigger leads to diversification of risks due to specific loans, as predicted by Portfolio Theory.

But consolidation may cloud the hidden dangers of over-concentration. As discussed previously, there may be a need to consider deposit insurance as the stakes would then be concentrated in 2 to 3 banks. Any failure of a bank would upset the banking system significantly, as the impact would be greater. However, the considerations behind the setting up of deposit insurance are both tricky and problematic. Based on the principle of avoiding moral hazard, MAS would send the wrong signals if it commits itself to helping distressed banks. Alternatively, it need not be an explicit guarantee, and scope of insurance could be highly restricted to clearly defined limits. Even if the MAS were to agree to such a system, an insurance-syndication scheme may be considered to share the risk between public and private sector. An ideal situation would be to find a willing private insurance agency that was prepared to undertake this risk. In the new environment where MAS has encouraged consolidation and eased its erstwhile strong regulatory grip, the onus ultimately will be on the emergent banks to exercise strong corporate governance and prudential measures.

4.4.4 Concern about Corporate Control. As regards the “market for corporate control”, there are two pertinent issues. First, the wave of consolidation in the banking industry is
accelerating globally. With the restriction of 40% foreign ownership lifted, we could expect Singapore banks to be acquired by or merge with foreign banks. Larger banks like DBS are less likely to be acquired, given its size and the high level of state ownership. It would be in a strong position to defend itself against a takeover. However, local banks that have been owned by families may not have the resources like DBS to withstand the open competition. The same sentiment was felt in other parts of Asia as well. Analysts noted that it was government regulators and supervisors who were driving the mergers and consolidation.¹⁵ If the mergers were not going to lead to cost and personnel savings or increase the synergy, then the real value of the mergers would not be apparent. The tension between broad government direction and industry participants should not be underestimated. MAS tried to pre-empt this tension by setting the requirement to create Nominating Committees within local banks to enable a majority of citizens and permanent residents on the board to retain control of the banks. At the same time, Singapore banks realised that if they did not regroup fast enough, not only would they suffer a momentary “loss of time and initiative”, their long term viability may also be threatened as domestic customers shift towards better services and products offered by the new competition.

4.5 SUMMARY

¹⁵ Analysts like Williams from Thomson BankWatch and Robert Rountree, chief strategist for Prudential-Bache Securities Asia, both based in Hong Kong, noted that mergers are proceeding slowly despite the big push to consolidate. Sep 1999.
On of Singapore’s strengths in the Asian crisis was in the strength of its banking system and the tight regulation which was exercised by MAS. Post-crisis, a rethink of the status quo resulted in the review of the regulatory framework and the liberalisation of the sector to keep pace with the pressures arising from globalisation. Three important issues were discussed here:

a. Preservation of the stability of the banking system and the liberalisation efforts to make capital work harder and more efficiently. In order to ensure that banks are adequately shielded from exogenous shocks, a total risk management system is needed to hedge their exposures and potential mismatches of assets and liabilities. Although it is useful to breakdown risks into their components (particularly interest rates and foreign currency risks), it is important not to lose sight of the aggregate risk. This thesis also argued for the need to consider some form of deposit insurance (explicit or otherwise) when the structure of the banking sector settles on a 2+1 model. The “too-big-to-fail” argument is a compelling one for Singapore. Whilst there is a role for safety nets, the design of the insurance scheme should not be overly generous as to create moral hazard problems. The question of whether the government (and taxpayers) should bear all the risks was raised, and the possibility of devising a risk-sharing mechanism with private sector insurance agencies merit further study.

b. Technology will have a significant impact on the industry. New regulatory policies and mechanisms will be needed to facilitate (rather than stifle) the upgrading of banking expertise to compete global. Online banking will be the
dominant feature in future, and the earlier the banks embark on the learning curve, the better their chances of keeping up at the forefront and innovating new services and products.

c. We observe that the global industry trend is towards consolidation of banks to create critical mass and pooling of resources. The question for the local banks is whether they could afford not to do it. Further, what follows after consolidation must be a series of efforts to develop new capabilities and knowledge base. The deregulation to engender the VAR measurement of risks is only one aspect of a larger capability build-up plan. Banks should not merely merge for its own sake, but to constantly find ways to create value-added services and to reap synergies that the component banks offer. Investments to introduce electronic technology, risk management systems, market knowledge would be needed to improve the competitiveness of local banks. The operative idea is to upgrade or die.

The transition to the new method of supervision was necessary, and local banks would now have to assume greater responsibilities for their banking strategies, and to rapidly develop new tools and expertise to meet those challenges. It is a substantial effort, and should be pursued with correct strategies and investments. MAS on the other hand would gradually have to let go, and adjust to the new role with a less intrusive approach – without compromising the stability of the banking system.
CHAPTER 5

OPPORTUNITIES FOR THE BANKING SECTOR

We now analyse the respective banking segments in greater detail. We would discuss opportunities in the retail, corporate and institutional markets from a domestic perspective first, and followed by a section on venturing abroad.

5.1 RETAIL BANKING

Prior to the crisis and restructuring, the Big Four, namely Development Bank of Singapore (DBS), Overseas Chinese Banking Corporation (OCBC), United Overseas bank (UOB) and Overseas Union Bank (OUB) dominated the retail banking business. Others included Post Office Savings Bank (POSB), Keppel, Tat Lee, while foreign players Citibank, Hong Kong Shanghai Bank (HSBC) and Standard Chartered. The relative sizes are reflected below:

<table>
<thead>
<tr>
<th></th>
<th>Total assets ($ bil)</th>
<th>Net Profits ($ mil)</th>
<th>Branches</th>
</tr>
</thead>
<tbody>
<tr>
<td>DBS</td>
<td>39</td>
<td>261</td>
<td>43</td>
</tr>
<tr>
<td>OCBC</td>
<td>34</td>
<td>347</td>
<td>47</td>
</tr>
<tr>
<td>UOB</td>
<td>29</td>
<td>300</td>
<td>81</td>
</tr>
<tr>
<td>OUB</td>
<td>23</td>
<td>152</td>
<td>40</td>
</tr>
<tr>
<td>Keppel</td>
<td>7.7</td>
<td>44</td>
<td>17</td>
</tr>
<tr>
<td>POSB</td>
<td>15</td>
<td>-</td>
<td>130</td>
</tr>
</tbody>
</table>

Source: Banks' annual report. 1997

As recovery takes place, the competition for retail customer base will intensify, and local incumbents could no longer be passive in gaining and retaining customers. A combination of narrowing corporate lending interest rate spreads, growing competition for deposits, and increasing customer sophistication made it clear that retail banking will
not be an opportunity, but an imperative to preserve profits and market position.

5.1.1 Customer Preferences. In a 1998 McKinsey survey, targeted at Asian middle and upper income individuals, 70% were satisfied with their current bank, but 60% shopped around and 41% would willingly switch institutions for improved convenience and pricing.\(^1\) This is good news for innovative providers, incumbents or otherwise, since the rules are changing. Banks now need new tools, skills and distribution channels to reach out to its customers. Post crisis, with declines in wages and disposable incomes, households are more reliant on banks and financing companies to finance major purchases. As such, individuals will look for the most competitive rates to finance their loans or to extend their credit facilities. Comparison-shopping will be a dominant feature of retail banking as customers seek to gain the highest returns for deposits, and lowest rates for loans, which in turn raises the need for financial planning. Banks would need to be responsive to this emergent need. With better financial and telecommunications technology, the domestic customer of tomorrow will be able to switch between banks, and may even move money across borders to get the best rates.

5.1.2 Technology. With the liberalisation, competition would intensify further. Even with government protection, local banks had to invest in expensive technology to increase their range of services. For example, systems such as NETS (Networks for Electronic Transfer), ESP (Electronic Share Payments) and IPO (Initial Public Offerings) were developed to enhance the services through ATMs. Online banking and smart card

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\(^1\) Casserly. Pg. 168.
technologies such as the Mondex systems were also being developed aggressively. By opening the banking sector, foreign firms would add the menu of service delivery, technology and new ideas, which could transform the industry.

From a capability build-up perspective, investment in technology is expensive. For example, larger banks like Citigroup have a dedicated business unit called e-Citi, which manages the companies Internet strategy and execution, including the creation and delivery of electronic financial services, and e-commerce activities. While the benefits were shared throughout Citigroup, e-Citi itself is a cost-centre, where high operating expenses were not offset by revenues, accumulating net losses of $290mil from 1996-8.\(^2\) The local banks have yet to reflect their technology investment budgets as an explicit item (based on 1998 annual reports), which makes it difficult to track the level of investments made. With relatively low expenses to income ratios between 25% to 35%,\(^3\) it may mask the under-investment in new technologies for local banks needed to compete in the long run. However, the mitigating factor may be the need to balance the non-performing loans with profitability, which in turn may depress the level of investments in technology. Clearly, with reducing margins and needing to bear the costs of developing and deploying more advanced systems, and local banks too would have to pool resources to invest in technology or to form strategic alliances with foreign banks to share the costs and risks of development.

5.1.3 Transition Strategy: Consolidation. Post crisis, banks were consolidating to gain

critical mass in order to broaden the customer base, as well to gather enough resources to invest in core capabilities and key technologies. DBS and POSB merged in 1999 to become the biggest commercial bank in Singapore. Prior to merger, the DBS, already the largest commercial bank, had 43 branches and 246 ATMs. Adding 130 branches and 670 ATMs from POSB has increased DBS's reach and customer base. Others, like Overseas Chinese Banking Corps (OCBD), absorbed Four Seas Bank to become bigger. Keppel and Tat Lee banks also merged shortly after. After this restructuring, only 9 banks made it to the Asia 500, down from 12 – but their total assets rose by $18 billion to $171 billion.⁴

5.1.4 Segmentation By Demographics. By the year 2030, 25% of Singaporeans will be 60 years and older. This makes Singapore one of the fastest aging population in the world, and there are significant shifts in the banking needs. Although the mandatory savings account, known as the Central Provident Fund, has enabled working Singaporeans to set aside some money for retirement and healthcare needs, these savings are calculated to provide basic needs. In order not to suffer too drastic a reduction in lifestyle, Singapore savers will be looking to banks to provide more services to ensure financial self-sufficiency through investments. Another group of customers would include the middle and high-income earners. With a per capita income rising from $4900 in 1980s to $31600 in 1997, coupled with a high savings rate of 45%, the average savings would be in excess of $46000. These middle and high-income earners are also likely to be educated and socially mobile, and would require financial planning services to meet

³ DBS, OCBC and OUB Annual Reports 1998.
their consumption needs. This segment would provide a broad customer base for high value mortgages and retail investments. The ability to capture these growing population segments will strengthen the banks' future position.

5.1.5 **Segmentation by Services.** As customer needs become more sophisticated, the ability to provide the appropriate level of service at competitive prices means that banks could develop in 2 broad ways. Thus, the essential mission of retailers -- getting the right product in the right place at the right price at the right time -- is a constant. One way is to offer a one-stop service, providing a wide cross-section or bundling of services. For larger banks, such an approach would work, as they would have enough resources. This was the predominant practice in many countries. But with the development of disruptive technologies, which allow for on-line and direct marketing, it may be possible for users to gain access to customised financial services. In which case, smaller and emergent banks, could level the playing field by developing specialised services and a strong brand name to compete, without having to bear the high costs of design and providing extensive bricks and mortar branches to serve customers requiring broad requirements. However, the path may not be as straightforward for smaller banks because larger ones like Citibank could play the same game as well. Leveraging on its technology advantages, Citibank was able to penetrate the Hong Kong retail market using online banking, although it had only 17 branches physically in 1998. ATM, phone banking and the Internet account for 50% of its transactions.\(^5\) Ironically, once a bank like Citibank can generate 75% of transactions through technologies, it will have the critical mass to be mass-market player

\(^4\) Sprague and Shameen. "A New Breed Rising – How Recovery from the Asian Crisis is Creating a Leaner
by specialising in online services.

Competition would come in the form of specialised services and very competitive rates. For example, Amex has recently introduced interbank-linked mortgage loans, which differentiates itself from the competition. Such competitive offers had been touted as "trailblazing" by the South China Morning Post, since only corporate customers get interbank rates which are typically about 100 basis points lower than the prime lending rates. If Amex went further by offering online services, application and support services like valuation and legal, we could expect the capture in market share to be disruptive to traditional bank or mortgage companies. Specialised services have also created a disruptive impact in the US, particularly in electronic retail stockbroking. Firms like Charles Schwab, E trade and Datek are providing retail services, which allow customers to trade financial securities the way they want it. Soon, Singapore banks will need to create new ways to compete by combining technology applications and specialisation in selected services in order to retain their market share and extract economic rents for their services.

5.2 CORPORATE BANKING

5.2.1 Effects of Crisis. Arising from the Asian crisis, there was some consensus that banks netted a sizable non-performing loans (NPLs) portfolio as a result of liquidity crunch. Excessive borrowing by firms and weak corporate governance, coupled with...
limited financial transparency that prevented the correct assessment of risks by market participants put firms in a very vulnerable position when the crisis hit. Banks faced with higher costs of borrowing, passed on the costs to firms, and the market shifted from an equilibrium of credit equilibrium with excess borrowing to one with excessive credit rationing, resulting in a severe liquidity crisis. Bearing in mind that capital markets were relatively less established, banking served as the main instrument by many governments relied on banks as an extension of their economic policies. Before the crisis hit, corporate banking was considered highly lucrative and remained the main emphasis for many banks. In 1997, the crisis affected Singapore banks’ performance, albeit in a less drastic manner (non-performing loans were within 5.3% of total non-bank loans). The corresponding ratios for 1998 were within 11.5% (if DBS’ share of the NPLs arising from its acquisition of Thai Danu Bank was excluded).

Conversely, troubled regional banks easily chalked up twice, triple or even higher

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multiples of this figure. In addition, the Big Four local banks’ capital adequacy ratios ranged from 17% to 23.8% as at 30 June 1999. Many troubled regional banks are still struggling to recapitalise themselves to meet the 8% ratio prescribed by the Bank for International Settlements (See Fig above).

Post crisis, there would still be a role for corporate banking, although it may be arguable if the same margins could be captured like before. With commitments to tighter banking supervision and corporate governance, and coupled with the demand for funds to support the recovery phase, the East Asia market may prove to offer opportunities for Singapore banks. Corporate banking opportunities in Singapore and around the region are closely tied with the structure and growth of economy. The rise of capital markets and competition from investment banks and export credit agencies have eroded the traditional customer base of corporate bankers. Firms could turn to equity and/or bond markets to get attractive rates, thereby bypassing commercial banks. The main beneficiaries are established investment banks like Morgan Stanley, Merrill Lynch and Goldman Sachs. Nevertheless, corporate banking growth (See table below) remained spectacular throughout much of the 1990s, with the bulk of business coming from domestic firms under the auspices of protective regulations.

<table>
<thead>
<tr>
<th>Growth in Domestic Corporate lending In Asia (1990-7)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Philippines</td>
</tr>
<tr>
<td>China</td>
</tr>
<tr>
<td>Indonesia</td>
</tr>
<tr>
<td>Thailand</td>
</tr>
<tr>
<td>Malaysia</td>
</tr>
</tbody>
</table>

Source: IMF
5.2.2 Profit Opportunities. Corporate banking revenues of Asia’s top 500 banks in 1996 added up to $56 bil, of which 51% was due to lending and trade financing, 40% on deposits and cash management, and 9% for foreign exchange. Much of the growth was contributed by higher margins. Typically, spreads on loans to Fortune 500 equivalent corporations in the US were often 25 basis points or below, which is comparable to the rates paid by best-risk companies in Japan, Hong Kong and Singapore. Outside these 3 countries, banks could earn around 50 basis points, and up to 100 basis points in Indonesia.\(^6\) The higher spreads were indicative of the increased risks involved. Syndication and commitment fees (off-balance sheet activities) were also profitable services, yielding about 45 to 12.5 basis points, respectively. Financial intermediation was extended to cover deposits and cash management services, which formed a niche market for traditional banks. During the high growth periods, less sophisticated companies allowed banks to handle day-to-day cash balances, and the latter earned substantial profits from this “free” resource. Even in relatively sophisticated Singapore, UOB was earning 10-15% of corporate banking revenues from deposits.

Post-crisis, the problems of mismatched cash flows arising from foreign exchange and interest rate risks have been identified. As companies become more aware of their exposure, coupled with increased cross-border trade, they would turn to banks for trade financing and hedging services. Commercial banks with the expertise to handle hedging transactions and contribute to companies’ cash productivity by moving funds efficiently around the intricate regulatory regimes across the region would stand to capture the

market. As we discussed in Chapter 3, this is a possible growth area for Singapore’s financial sector, given the highly liquid Forex market and the network of local and international banks.

5.5.3 **Segmentation of Market.** During the growth years, both international and local banks competed to in the race to capture the corporate market. With the WTO working to force open financial markets further, the competition could only intensify. The corporate market could be segmented in to 5 main groups: multinationals (MNCs); emerging Asian global companies; large locals; middle market companies and small businesses. MNCs are the least attractive, despite their huge capital and financing requirements. Typically these MNCs often take banking orders from the headquarters, where key credit lines may have been assigned in the US or Europe. Thus, despite an estimated 900 MNCs locating in Singapore, financial services demanded only 3% of total corporate banking business in 1996. This is a side effect of the strategy, which favoured attraction of MNCs to drive the economic development. Although Singapore will continue to compete for foreign direct investments (FDI) and high-tech companies, there is a realisation that homegrown industries are needed to diversify its industrial base. As Singapore transits to a knowledge base economy, its future success would depend on its own ability to innovate and form high-tech companies that can grow rapidly using breakthrough technologies. Financial services can be leveraged upon to facilitate this process, and successful companies can boost up the low financing rate of 3% due to MNCs.

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The remaining 97% of the business were derived from mainly emerging globals, large locals and middle markets, wherein local banks would have developed the most extensive business relationships. Banks have traditionally been servicing these clients given their local focus and financing needs. With regard the emerging globals, banking services would need to keep up with the increased complexity and demands of their clients as they expand globally. Therefore banks cannot afford to remain static, but to continuously work towards raising the level of their services at lower costs so as to retain their customers. But the most attractive group of clients are the large locals and middle market companies. As these companies have financing needs, but have difficulties in gaining access to capital markets or may not have a long history of solid credit ratings. Although these companies have funds, they do not have options or leverage power to force down margins too much. In the case of middle market companies, they are even more dependent on bank credit for their operations. However, banks would need to perform in-depth scrutiny of these companies to ascertain the risks accurately before extending credit. In less developed markets, international banks, lacking in-depth local knowledge tend to shy away from the middle market due to the difficulties associated with transparency issues. For local banks venturing into the regional large local and middle market, the acquisitions strategy must include the “local knowledge” factor in addition to the assets on the balance sheets of target banks.
<table>
<thead>
<tr>
<th></th>
<th>MNCs</th>
<th>EmergingGlobals</th>
<th>LargeLocals</th>
<th>MiddleMarket</th>
<th>Small</th>
</tr>
</thead>
<tbody>
<tr>
<td>No of Companies</td>
<td>898</td>
<td>90</td>
<td>288</td>
<td>1712</td>
<td>34</td>
</tr>
<tr>
<td>% of banking revenue</td>
<td>3%</td>
<td>29%</td>
<td>39%</td>
<td>21%</td>
<td>8%</td>
</tr>
</tbody>
</table>

Source: BIS, McKinsey analysis. 1996

5.5.4 **Threat of Disintermediation.** Having established that the emerging globals, large locals and middle markets are where the business is, banks cannot afford to be complacent. The threat of disintermediation still remains real. As firms push for greater efficiency and lower costs of raising capital, except for very large projects or loans, the time may come when banks would be bypassed. Perhaps the saving grace for traditional banking models is the counter-party role that banks currently play by bearing all the credit risks when giving corporate and consumer loans.

With technology and Internet marketing, emerging e-finance models may challenge the traditional model of financing. Starting from the business transaction function, we note that the e-business solutions are presently focused on integrating the supply chain and pushing towards direct distribution to help keep costs lower. The same idea could be extended to financial services, where payments and advances for goods could be carried out through clearing houses, such as Visa and MasterCard, which may cut out the banks functions in providing credit and cash management services. Firms not only could bargain for better services like low cost insurance for goods, and the charges for letters of credit services could be eliminated – leading to a more cost-efficient position.
In terms of funding and treasury functions, a great of the transactions are in short-term commercial papers where there is no need for collateral, and firms would seek the lowest costs of borrowing. If the capital markets offer products that meet these needs, again the banks would be hit as firms could potentially go directly to borrow. Already, even relatively illiquid securities such as bonds are beginning to be traded in the US. With the traditional intermediary cut out, firms could expect to benefit from lower transaction costs and possibly be able to source the cheapest loans. Notwithstanding the credibility and effectiveness of this new form of financing, and the legal and settlement issues which need to be addressed, banks would need to find a way to insert their services within the financing value chain of firms. This means putting the customer first, and providing the most competitive advantages, which would benefit the customer in order to capture and retain their business.

5.3 INSTITUTIONAL BANKING

5.3.1 Institutional investing may not face the same degree of threat from disintermediation, given the large scale and long-term financing activities needed. In the Singapore context, the government plays the largest role, given the large resources at its disposal, as discussed in Chapter 3. The Central Provident Fund offers about $51 bil, and was largely invested through GIC (Government Investment Corp). With official reserves of about $70 bil, the domestic market is about $120 bil; it could be leveraged upon to form an asset management centre serving the region. In terms of strategic positioning, it could tap on the growing needs of aging populations in the region, and to be the premiere asset management centre in Asia, excluding Japan. Japan and Hong Kong have more
developed institutional infrastructure and talent, and it would be strategic to form alliances to help Singapore asset management firms take off. Again, the core risk management and financial engineering capabilities would need to be built up rapidly. In order to create a more conducive environment to grow the industry, a combination of government incentives, as well as attracting major foreign institutional firms to set up in Singapore. Indigenous boutique fund management firms, such as Abacus Investments, were also being set up to initiate the process. As the industry gains in momentum and institutional knowledge through “learning by doing”, expertise and knowledge would be created and circulated.

5.3.2 Key government promotional efforts include the following:

- Commitment to place $15 bil of GIC funds and $6 bil of MAS funds, forming a total of $21 bil, over the next 3 years for external fund managers in a bid to stimulate the industry.

- Liberalise CPF investment scheme by adjusting the selection criteria for CPF-approved fund managers.

- Liberalise the Unit Trust market. Removed minimum investment requirements for unit-trust regular savings plans to allow domestic investors greater access. Lower entry requirements for foreign companies setting up as investment advisors. Lower the minimum shareholders’ funds from $300 mil to $60 mil, and minimum global funds managed by parent company from $3 bil to $0.6 bil.

- Enhance tax incentives by abolishing withholding tax on unit trusts distributions, and exempting fund managers who manage more than $3 bil in Singapore.
While these measures would set the conditions for growing institutional banking, the issue will turn on the ability to spot opportunities both domestically and overseas to convert them into realisable profits. To this end, developing a pool of expertise in managing large-scale investments would remain a top priority, and this would bring Singapore into competition with top financial centres for talent.

5.4 VENTURING ABROAD

Whilst domestic consolidation and liberalisation would help in strengthening the banks in Singapore, the external environment is also evolving rapidly. Any bank with an eye for regional leadership would need to consider whether and how to enter the merger and acquisition (M&A) market. The path is not likely to be straightforward, although the potential benefits of gaining access to a wider market base and extracting synergies could prove to be important determinants for growth, given that Singapore’s domestic market offer a limited set of opportunities.

5.4.1 Joining the M&A Wave. Notable opportunities arise in Thailand, Hong Kong, Korea and Indonesia where government regulations are more conducive to private sector M&A activities. Thailand, Indonesia and Korea have allowed 100% ownership of local banks as an inflow of foreign capital was needed to pump in liquidity into distressed banks. Limits have been raised to 60% in Philippines and to 50% in Taiwan.\(^8\) Between 1997 to 98, private sector M&A rose from $2.6 bil to $5.6 bil, respectively. Of which, a

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significant portion (45% or $2.68 bil) were contributed by cross-border acquisitions. Between Jul 97 to Feb 99, DBS bank has joined the ranks of European and US banks in the M&A market to obtain gain a regional foothold (See Table below).

<table>
<thead>
<tr>
<th>Acquirer</th>
<th>Target</th>
<th>Value ($ mil)</th>
<th>Stake</th>
</tr>
</thead>
<tbody>
<tr>
<td>HSBC (UK)</td>
<td>Seoul Bank (Korea)</td>
<td>900</td>
<td>70%</td>
</tr>
<tr>
<td>Newbridge (USA)</td>
<td>Korea First Bank (Korea)</td>
<td>560</td>
<td>51%</td>
</tr>
<tr>
<td>DBS (Singapore)</td>
<td>Kwong On Bank (HK)</td>
<td>450</td>
<td>65%</td>
</tr>
<tr>
<td></td>
<td>Thai Danu Bank (Thailand)</td>
<td>130</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Bank of Southeast Asia (Philippines)</td>
<td>50</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Mitsubishi Buana Bank (Indon.)</td>
<td>50</td>
<td>-</td>
</tr>
<tr>
<td>Commerzbank (Ger)</td>
<td>Korea Exchange Bank (Korea)</td>
<td>250</td>
<td>30%</td>
</tr>
<tr>
<td>Chase Manhattan (USA)</td>
<td>Manhattan Card (HK)</td>
<td>250</td>
<td>46%</td>
</tr>
<tr>
<td>ABN AMRO (Netherlands)</td>
<td>HG Asia (Hong Kong)</td>
<td>220</td>
<td>75%</td>
</tr>
<tr>
<td></td>
<td>Bank of Asia (Thailand)</td>
<td>180</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Asia Securities (Thailand)</td>
<td>3</td>
<td>-</td>
</tr>
</tbody>
</table>

Source: DBS Bank, McKinsey Quarterly

While the acquisition approach enables banks to gain entry to hitherto closed markets quickly, ultimately it must the value that can be captured from the M&A which justifies the strategy. There remain significant difficulties owing to the poor disclosure standards, which may lead to valuation errors. At the same time, the reluctance of owners to sell may compound the problems of corporate control of these banks, only to bow out by jacking up the selling price. Also, operating under the jurisdiction of a foreign legal, accounting frameworks would pose major challenges.

5.4.2 Loans and Regional Exposures. After two years of restructuring and adjustments, the prognosis is that the situation in South East Asia has stabilised.⁹ Thailand has made

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some progress in clearing and consolidating its financial sector, while Malaysia has attained a strong balance of payments surplus and growing foreign reserves. Indonesia is still fraught with uncertainty. The table below shows that the banks’ exposure to regional countries have stabilised after charging the non-performing loans over the past two years. It also shows that Singapore banks have substantial interests in Malaysia and Thailand, and less so in Korea and Philippines.

<table>
<thead>
<tr>
<th>Quarter Ending</th>
<th>Net Exposure to Regional Countries (RC)</th>
<th>NPL Ratios</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(Net Gross Exposure)</td>
<td>RC NPLs</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Global NPLs</td>
</tr>
<tr>
<td></td>
<td></td>
<td>RC Non- Bank NPLs</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Global Non-Bank NPLs</td>
</tr>
<tr>
<td></td>
<td>As % of Singapore Dollars ($)</td>
<td>%</td>
</tr>
<tr>
<td>Total</td>
<td>Malaysia</td>
<td>Indonesia</td>
</tr>
<tr>
<td></td>
<td>31.2</td>
<td>17.1</td>
</tr>
<tr>
<td></td>
<td>8.7</td>
<td>3.6</td>
</tr>
<tr>
<td></td>
<td>1.3</td>
<td>8.7</td>
</tr>
<tr>
<td></td>
<td>0.5</td>
<td>1.3</td>
</tr>
<tr>
<td></td>
<td>17.3</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>25.3</td>
<td>9.5</td>
</tr>
<tr>
<td>Sep-98</td>
<td>29.7</td>
<td>16.4</td>
</tr>
<tr>
<td></td>
<td>3.2</td>
<td>8.4</td>
</tr>
<tr>
<td></td>
<td>1.1</td>
<td>1.1</td>
</tr>
<tr>
<td></td>
<td>0.6</td>
<td>6.9</td>
</tr>
<tr>
<td></td>
<td>22.7</td>
<td>34.1</td>
</tr>
<tr>
<td></td>
<td>11</td>
<td></td>
</tr>
<tr>
<td>Dec-98</td>
<td>30.3</td>
<td>17.2</td>
</tr>
<tr>
<td></td>
<td>3.3</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>1.1</td>
<td>1.1</td>
</tr>
<tr>
<td></td>
<td>0.7</td>
<td>7.3</td>
</tr>
<tr>
<td></td>
<td>23.8</td>
<td>36</td>
</tr>
<tr>
<td></td>
<td>12.1</td>
<td></td>
</tr>
<tr>
<td>Mar-99</td>
<td>29.4</td>
<td>17.1</td>
</tr>
<tr>
<td></td>
<td>3.1</td>
<td>7.3</td>
</tr>
<tr>
<td></td>
<td>1.2</td>
<td>1.2</td>
</tr>
<tr>
<td></td>
<td>0.7</td>
<td>7.2</td>
</tr>
<tr>
<td></td>
<td>23.2</td>
<td>35.6</td>
</tr>
<tr>
<td></td>
<td>12.2</td>
<td></td>
</tr>
<tr>
<td>Jun-99</td>
<td>27.7</td>
<td>16.4</td>
</tr>
<tr>
<td></td>
<td>2.9</td>
<td>6.4</td>
</tr>
<tr>
<td></td>
<td>1.4</td>
<td>1.4</td>
</tr>
<tr>
<td></td>
<td>0.6</td>
<td>7</td>
</tr>
<tr>
<td></td>
<td>23.5</td>
<td>36</td>
</tr>
<tr>
<td></td>
<td>12.2</td>
<td></td>
</tr>
<tr>
<td>Sep-99</td>
<td>Source: MAS. 1999</td>
<td></td>
</tr>
</tbody>
</table>

Expanding into the rest of Asia will pose significant challenges owing to the country-specific conditions and peculiarities. Adequate consideration needs to be given to devising the strategy, understand the business and competitive environment, the organisational structure, control system for sound banking and the management of information flows. Given that Asia is not homogeneous, each country has to be treated separately. Making forays into new regions without careful estimation of the risks and calculations of the sources of profitability can be hazardous. We consider here briefly the exposures of local banks within Asia.
As financial markets becomes more integrated, it is clear that venturing into the region and beyond will be increasingly important. Expanding operations into the region will give local banks greater exposure and opportunities to understand the targeted markets and customer. Based on the table below shows the exposures to the region by local banks, we note that each bank has areas of concentration. For example, OCBC and UOB have significant interests in Malaysia, OUB has placed greater weight on Hong Kong. The crisis has opened up opportunities for banks to expand their portfolio by acquiring troubled banks, and in so doing develop deeper expertise in cross-border operations. This also contributes indirectly to the overall strategy by Singapore to establish itself as a regional or international headquarters.

<table>
<thead>
<tr>
<th></th>
<th>DBS</th>
<th>OCBC</th>
<th>UOB</th>
<th>OUB</th>
</tr>
</thead>
<tbody>
<tr>
<td>Malaysia</td>
<td>964</td>
<td>4527</td>
<td>2152</td>
<td></td>
</tr>
<tr>
<td>Indonesia</td>
<td>608</td>
<td>518</td>
<td>355</td>
<td></td>
</tr>
<tr>
<td>Thailand</td>
<td>4144 *</td>
<td>328</td>
<td>166</td>
<td>2165</td>
</tr>
<tr>
<td>Philippines</td>
<td>490</td>
<td>24</td>
<td>15</td>
<td></td>
</tr>
<tr>
<td>Korea</td>
<td>538</td>
<td>101</td>
<td>37</td>
<td></td>
</tr>
<tr>
<td>Hong Kong</td>
<td>-</td>
<td>-</td>
<td>563</td>
<td>1618</td>
</tr>
<tr>
<td>China</td>
<td>-</td>
<td>-</td>
<td>136</td>
<td>529</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>6744</td>
<td>5498</td>
<td>3394</td>
<td>4312</td>
</tr>
</tbody>
</table>

Sources: Banks’ 1998 Financial Reports  * includes Thai Danu Bank

5.4.3 Diversification Strategy. A diversified approach in terms of geographical exposures is necessary to protect the banks. As part of this strategy, local banks would need to develop their banking opportunities in the region, and eventually globally. Out of this crisis, DBS has used the opportunity to develop new networks in Thailand, while OCBC and UOB has maintained a high presence in Malaysia. It is interesting to note that OUB has a proportionately higher interest in Hong Kong and China. As the region recovers, the scope for retail and corporate banking will increase. The experience gained
in Internet banking in the domestic market could be leveraged upon to serve both retail and corporate customers. In terms of corporate opportunities, the development of banking relationships would be play an essential role in being able to add value to the customer. With footholds like these, it would be imperative to work on retaining customer loyalty in order to mitigate the threats of disintermediation.

Of chief concern would be Indonesia, especially with the uncertainty surrounding the economic and political transition taking place after the crisis. Although Indonesia seems to have stabilised since the sharp devaluation of the rupiah in 1997 and has experienced positive GDP growth in 1999, political and social tensions may threaten the recovery process.\textsuperscript{10} Internal security remains a high priority, given that more agitating regions such as Aceh, Irian Jaya and Molucca islands may follow the path of East Timor in seeking independence. Even the economic recovery is tenuous: with 27% of Indonesia’s exports going to Japan, its fate is closely tied to Japan’s recovery – something out of Indonesia’s control.\textsuperscript{11} The liberalisation of the financial sector was also slow moving, partly due to the long-drawn negotiations, and partly due to transparency and cronyism issues.\textsuperscript{12}

Owing to the importance of Indonesia to regional stability, it is strategic to remain

\textsuperscript{10} The Economist. (19-25 Feb 2000). “Fathoming the President” Pg. 42. The transfer of power from the military to civilian rule has proceeded well, although rumours of military coups have caused an apparent rift between the president and former ABRI chief, General Wiranto.

\textsuperscript{11} The Straits Times (18 May 1999) “Scaling the economic and political risks in Indonesia”. Also, commodities prices have been rising, especially oil prices, as the region recovers have helped to support the Indonesia economy.

\textsuperscript{12} Time Magazine (23-30 Aug 1999 VOL) “Who Guards the Guards?” For instance, a senior official at the Indonesian Bank Restructuring Agency (IBRA), an institution set up in early 1998 as a condition of a $42
supportive of the economic recovery process. Without a stable Indonesia, Singapore’s position an international financial centre would be adversely affected. In spite of the significant risks involved, Singapore banks are likely to continue to maintain a certain level of presence to maintain the relationships. However, a pragmatic and diversified approach will still be needed to safeguard the investments in Indonesia as it is likely to be a long-term commitment.

5.4.2. Opportunities Beyond in Asia. Going beyond ASEAN will pose tough challenges given the relative lack of familiarity with the local conditions and the regulatory structures. For example, Japan has a matured and closely-knit banking sector, and coupled with the fact that large US banks have a dominant presence already. New entrants will find it very difficult to penetrate the Japanese market, except perhaps to form linkages with Japanese banks to participate in loan syndication in a supporting role.

China, on the other hand, offers a large potential market and the demands for financing is expected to increase as she modernises its economy. Moreover, if China gains membership into WTO, then we can expect further liberalisation of the financial sector. However, the decision to gain entry into China is not a straightforward one.

Lardy (1999) highlighted that the financial system in China was highly leveraged, and the four major banks had a negative net worth (hence insolvent).\textsuperscript{13} Foreign investments have slowed down significantly over the past 3 years, and non-performing loans of banks

\textsuperscript{13} billion IMF bailout, was found transferring some $77 million to PT Era Giat Prima, a company controlled
sector remain at a high level. A large part of the blame could be assigned to unprofitable state-owned enterprises (SOEs). The rolling of bank loans from state banks have helped to support the ailing SOEs, but at the expense of exhausting state funds to subsidize non-performing projects.\textsuperscript{14} By mid-1998, the government was again pushing banks to lend money in support of an elusive 8\% growth target.\textsuperscript{15} Bank lending, low interest rates and massive state spending on infrastructure would insulate China from the crisis. The main worry is that such loans (often by directed lending) were made without credit risk and profitability assessment.\textsuperscript{16} While the need to restructure the SOEs and the financial system was recognised, the implementation could be difficult and may take a long time to accomplish. For instance, for banks to move towards a clean balance sheet and reduce bad loans, they would need the injection of new capital, which was likely to come from increased public debt or taxes. The management and control of loans will also need to revised substantially to avoid misdirected allocation.

The alternative is to seek foreign funding. China will have to open up its financial sector if it wants to attract foreign investments. There remains a reluctance to open up banking sector too readily. Tight restrictions on banking transactions (such as limits on deposit taking) and control on foreign exchange in the local currency (\textit{renminbi}) have caused the barriers of entry to the financial sector to be high.

\textsuperscript{14} Zhou. (1999) "A Strategic Assessment of CITIC Industrial Bank". MIT Sloan MSc Thesis. Pg. 17. Official figures for non-performing loans are not available, although estimates go up to 25\% to 35\% of the overall loan portfolio.
\textsuperscript{15} Casseley. (1999).
At the institutional level, there were opportunities to gain access into the Chinese system. That Chinese Banks have some of the lowest ratings in Asia meant that they were prepared to open up their banking sector to foreign participation. By 1999, Moody’s ratings for “Big Four” state-owned banks were in the Baa2 range, owing to the perception of the poor asset quality and a high estimated level of non-performing loans. Taking into account the risks involved, Singapore decided that a more strategic perspective might be needed in order to remain a player in China. In 1995, the Government Investment Corporations (GIC), an institutional investment arm of the Singapore government, participated in a joint venture with the China Construction Bank (CCB), Morgan Stanley and two other privately owned Chinese banks to form a joint venture project (named China International Capital Corporation (CICC)). With sovereign banking, it was thought that the project would be safer than otherwise. The charter of joint venture included the following services: provide financial advice to PRC and foreign enterprises on restructuring and M&A; domestic and international capital raising for infrastructure and industrial projects in the PRC; and direct investments of CICC’s own capital. By partnering with other heavyweight institutions, GIC was able to gain a deeper knowledge of the financial and legal environment, and yet have the benefits of lead foreign bank (Morgan Stanley) driving the process. The contribution by partners, which included both public and private banks, towards the CICC joint venture is shown below:

<table>
<thead>
<tr>
<th>Partners and Ownership in CICC</th>
</tr>
</thead>
<tbody>
<tr>
<td>China Construction Bank</td>
</tr>
<tr>
<td>Morgan Stanley</td>
</tr>
<tr>
<td>Government of Singapore</td>
</tr>
<tr>
<td>Investment Corporation (GIC)</td>
</tr>
<tr>
<td>China National Investment</td>
</tr>
<tr>
<td>and Guaranty Corporation</td>
</tr>
<tr>
<td>The Mingly Corporation</td>
</tr>
</tbody>
</table>

With hindsight, it was arguable if the enterprise was entirely profitable, but it was clear that it was a necessary part of the learning curve. Working through issues concerning resource allocation, management control systems and misunderstanding of expectations and direction has enabled the parties involved to learn more about the problems of operating in China. If the restructuring efforts of the SOE and banking system were to be successful, then the benefits of understanding the local system intimately may start to payoff.

At the retail level, the liberalisation has created some openings. In 1998, only 17 foreign banks were granted licenses to conduct business in the local currency. For Singapore, DBS and OCBC were two of the 17 banks that managed to gain a license. Competition for the local market would be intense, as bigger and more established banks such as Hong Kong and Shanghai Bank and Citigroup would set the benchmark of services. To be able to punch above its weight, DBS and OCBC would need to commit its resources to technology investments and training of staff to operate in China.

The preceding discussion on Japan and China reveals the complexity and difficulties involved in operating overseas. It is not sufficient just to be near the markets or to pour in funds that will determine the success rate. To compete successfully, local banks will need to study the operating environment and the institutional interests to establish a clear picture of the risks and sources of profitability.
5.4 SUMMARY

The recent liberalisation initiatives are part of the overall MAS strategy to grow world class banks. Local banks will have to reshape their strategic positioning in domestic market, as well as reach out to the region to gain market share. The introduction of foreign competition would add more urgency for banking upgrade and reforms. The urgency stems from technological disruption and cost pressures from globalisation. At the same time, the threat of disintermediation continues to cast some doubt as to the long-term future of traditional banking. Singapore banks must be agile and respond quickly. They have to develop expertise in financial product innovation and risk management, local knowledge about the customer value chain in order to add value. Better still, if banks could leverage on the Internet to help their customers, it would achieve a more lasting customer relationship. The Internet does not necessarily mean that banks will be eliminated, but banks could no longer afford to think in the traditional framework where the customer would come to them for loans and financial services. A more customer-oriented approach would serve to capture and retain market share.

Finally, as Singapore expands into the region, customised product development, marketing and distribution capabilities are essential to maintain an edge over competitors. Depending on local banks' self-assessment, they should only invest in the relevant product areas where they can build a sustainable competitive advantage. The idea of developing strategic alliances and sharing of resources with more established banks to

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shorten the learning curve is significant. It is important to recognise the peculiarities of each operating environment and the institutions involved before deciding to invest in emerging markets. Cooperating with a stronger partner (such as with Morgan Stanley or Citibank) can provide inroads whilst sharing the risks in penetrating a new market. Ultimately, local banks must learn to look beyond operating in Singapore and start to increase their presence overseas strategically and selectively.
CHAPTER 6
OPPORTUNITIES IN CAPITAL MARKETS

As a continuation of our analysis of the opportunities in the financial sector, we next examine the developments in the financial markets of Singapore. A central theme that emerges how Singapore can develop its own model of capital markets to raise the range and level of quality of financial services. In particular, financial and electronic communications technology will serve to preserve Singapore’s competitiveness and attractiveness as a trading hub.

The banking sector and the financial markets are intimately linked, and stability of one reinforces another and vice-versa. Capital markets (both equity and debt instruments) perform important role in the economy, since they allow resources to move across time and space, from where they are in excess to where they are needed most. A key difference between capital markets and financial intermediaries, such as banks and brokers, is that borrowers or issuers of securities can go directly to capital markets, and cutting out the middleman. Compared to banks, some argued that financial markets are more efficient in allocating resources as market forces and discipline were at work. Banks too are dependent of financial markets to improve their bottom line through trading activities, despite being challenged by financial markets as financial intermediaries.

Additionally, rapid technological advances in communications and electronic trading would make the flow of information and funds can be more transparent, hence leading to
an increase in trading volumes in search of equilibrium prices. The emergent trend of online trading technology could create a shock to the traditional exchanges as the competition for this increased traffic increases, and trades could be consummated at much lower transaction costs via the Internet. Already electronic communications networks such as Instinet, E*trade have siphoned some of the trading traffic away from traditional exchanges such as NYSE and NASDAQ via the Internet. Whether this trend would spread globally remains to be seen, but the technological solutions are available. Singapore could not afford to sit back and wait for technology to render its exchanges obsolete or too expensive. In response to cost pressures and the need to consolidate its position, the Stock Exchange of Singapore (SES) and Singapore International Monetary Exchange (SIMEX) merged to form an integrated Singapore exchange (SGX).

This rest of the Chapter explores the trends shaping the financial market business and examine issues that could enhance Singapore’s position as a premiere financial market. We will elaborate on the challenges posed by transparency issues and technological advances, and changes to the legal framework to keep up with the new environment.

6.1 SHIFTING TO FINANCIAL CAPITAL MARKETS FOR EFFICIENCY

The analysis in Chapter 2 shows that an over-reliance on a debt capital model could pull down the economy when macroeconomic instability arises, creating in negative reinforcing loop in the process. Using capital markets as a source of funding could mitigate the effects of a banking crisis.
In the US, capital markets play a more significant economic role as compared to Asia and Europe (with the exception of UK). The strength of U.S. capital markets could be traced to two sources. First, regulations such as the Bank Holding Company Act and the former Glass Steagall Act, which impeded the ability of commercial banks to take an active role in corporate finance, have raised the costs of commercial bank lending as a financing channel. This fostered the growth of capital markets as a substitute. Second, investors’ confidence in the efficiency and fairness of financial systems has helped to increase liquidity and flow of capital. Reinforcing this efficiency, market discipline required firms to be transparent in their reporting, as well as to perform up to expectations. Both pressures are relatively weak in Asian markets. Although there were concerns about “short-termism” of markets, the US Capitalist Model has the inherent strength in ensuring that returns on investments were satisfied. Long known for the high dependency on banks for corporate financing, the creation of the Neumarkt in Germany was an attempt to shift towards the US capital structure to spur entrepreneurship and growth in the economy.

Singapore is well placed to adapt these lessons to enhance its role as a leading international hub for financial markets, and leverage on the strong networks of banks and financial institutions to be the conduit for global funds into the rest of Asia. This is a

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1 Congress has declared U.S. domestic securities markets to be an "important national asset which must be preserved and strengthened." 15 U.S.C. Section 78k-1(a)(1)(A).
reasonable direction given the expected increase in demand; since post-crisis, more firms would want to avoid the problem of short-term loans by using capital markets.

The recent merger of SES and SIMEX exchanges on 1 Dec 1999 to form the Singapore Exchange (SGX) was in response challenges posed by technology and competition, and represents an attempt to increase range of services provided in trading and to cut overlapping overheads. It was also the first demutualised, integrated securities and derivatives exchange in Asia-Pacific.⁵ Although the crisis opened up opportunities to develop the financial markets, there were significant issues that need to be resolved before this aim could be achieved. Chief amongst them would be the larger exogenous issues such as the economic recovery of the region, and the conditions in Japan and China.

Differentiation will be a key strategy for Singapore. It would need to concentrate on pursuing sound economic fundamentals, excellent financial services infrastructure, and to focus on technology, innovation and market development to attract both domestic and foreign funds into Singapore.

6.2 MAJOR POST-CRISIS DEVELOPMENTS

6.2.1 Equity Markets. From a historical perspective, the relatively less developed capital markets in Asia could also partly be due to lack of confidence in the markets, as
well as a lack of supply of securities. New instruments emerged particularly in the late 80’s and mid-90’s, as exchanges became more sophisticated. For example, Singapore and Hong Kong started to issue futures to provide investors with hedging possibilities. As regards the lack of supply of equities which was the common problem in the late 80’s and mid-90s, there was a move to promote more local enterprises. As discussed earlier, the pro-MNCs policies remained a dominant feature in Singapore’s economic strategy. High FDI levels continued to drive the growth in Singapore: manufacturing investment commitments amounted to $2.8 billion in the last half of 1999, while services received $370 mil in total business spending. Foreign contribution was 94% and 82% for manufacturing and services respectively. While we should not slow down the flow of FDI, it is imperative that we create conditions that are conducive for more local entrepreneurs and local investments to grow. The striking example of Nokia has demonstrated that small countries such as Sweden need not necessarily be disadvantaged in the creation of world class companies. Undoubtedly if more local companies are able to reach world class standards, they could contribute to the supply of companies that would attract foreign funding in the Singapore financial markets.

In contrast, the reliance on MNCs means that they were more likely to use financial services from head office. Pre-crisis SES regulations, which required foreign firms to derive at least 20% of their revenue in Singapore before they could qualify for listing, also hindered the use of local equity markets. Realising that more firms were likely to

5 Press Release. “Singapore Exchange Announces Schedules for Opening Access and Liberalising Commissions of the SES Review Committee”. (1 Dec 99)
shift from bank loans to capital markets, SES worked reducing restrictions for firms to access the local financial markets. The “20% local revenue” requirement has been removed, and foreign firms could list on the SGX, and further liberalisation has allowed firms whose existing shares were traded in foreign currency on the SES to convert into Singapore dollar. In tandem with this liberalisation, domestic investor education would need to follow so that these investors could invest with a better understanding of the risks involved.

6.2.2 **Bond Market.** The development of the bond market has a slight twist. For a government that has generally run budget surpluses, the development of a domestic bond market was not accorded a high priority! As a result, the market for government securities, and the expertise in managing, and trading in a bond market was under-developed. In 1998, a whole series of Singapore Government Securities (SGS) were launched by MAS:

- issued $1 bil of government bonds and $2.9 bil of Treasury Bills (T-bills)
- issued 10 year bond
- created the repurchase (repo) market to broaden the market and boost liquidity.

By most measures, it was successful in making the bonds yield curve more responsive to the demand in the market, and the trading volumes had picked by 20% after the injection of funds. Perhaps the most important benefit from this exercise was to groom human capital, and generate the knowledge that enables local financial institutions, banks and institutional investors to tap on the global bond markets.

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7 "Economic Survey of Singapore Third Quarter 1999".
On the corporate bond side, foreign firms were able to issue bonds in Singapore, and rules on non-internationalisation of the Singapore dollar were relaxed such that Singapore dollar earnings could be swapped into foreign currencies. In addition, banks that bear counter-party responsibilities of such bond issuers were exempted from providing minimum cash balance and liquid asset requirements for Singapore dollar funds received via the currency swap. This coordinated package of bond market and banking sector reform, coupled with tax incentives, was aimed at attracting more foreign firms to issue bonds in Singapore. Consequently, the present spreads on currency swaps of 30 basis points could be expected to narrow if trading activities and liquidity picked up.\(^8\) With lower transaction costs and improved liquidity, firms borrowing in Singapore would be the ultimate beneficiary as a result of lower costs of borrowing.

An additional benefit of developing the bond market would be creation of the bond derivative market. As the bond market grows in breadth, it follows that derivatives such as swaps between fixed and floating rates, bond futures and bond options could be added to the menu of products to be traded.

6.2.3 Global Markets (Forex and Derivatives). The development of the forex and derivative markets would broaden the base of financial activities. In 1999, Singapore’s position as the 4\(^{th}\) most active foreign exchange and 5\(^{th}\) largest derivatives trading centre in the world helped to generate the buzz needed to draw both capital and talent. The daily forex trading volume of US$139 billion in 1998 put Singapore behind London, New York

\(^8\) MAS news release. (26 Nov 1999)
and Tokyo. Total derivatives trading volume on SIMEX was about 24 million lots in 1997, with an average daily turnover of 94,000 lots.

A large part of the traffic was due to Singapore’s time zone advantage: foreign exchange dealers here are able to transact with several centres on the same day. In the morning, dealers can transact with markets in South East Asia, Japan, Australia and New Zealand, while deals can be done in the afternoon with financial institutions in Europe and the Middle East. Institutions from the United States pass their overnight orders to branches or correspondents in Singapore to be executed in the morning. Forex activity in Singapore has also been boosted by the development of financial futures trading and night trading operations by several institutions. This may change if a global electronic network was established, and the sustainable competitive edge would turn to providing better products at highly attractive costs.

An area for SGX to focus on would be global risk management. Presently SGX offers 12 futures and six options contracts, covering interest rate, currencies, stock indices, energy and gold in the Asia-Pacific.\(^9\) The challenge would be to identify the major segments of customers and to design services and products to meet their hedging requirements. For instance, post crisis, firms would be more conscious of the need the hedge against mismatches between maturities between short-term and long-term loans due to interest rate risks, and between domestic and foreign currency payments. In anticipation of increased demand for such products, it is clear that banks and market makers need to rely

\(^9\) Koh. (22 Jan 1999). “Developments and Opportunities in the Singapore Bond Market”.
on financial innovation and directed marketing to promote the use of derivatives to corporate clients.

Apart from targeting corporate clients, the SGX would also need to enlarge its milieu of traded securities and derivatives. As such, the regulatory framework would need to align policies to facilitate electronic trading and form a critical mass. Regulatory agility has helped Singapore in the past. The futures trading in the Nikkei 225 index was a prime example of how the market migrated their transactions to SIMEX when the Japanese government made it illegal to trade derivatives with the Japanese stock market as the underlying.\textsuperscript{11} However, some may argue that the trading of derivatives was inherently risky (e.g. the collapse of Barings bank in 1995) and could destabilise the financial system. Derivatives trading \textit{per se} is not all bad; it allows two contracting parties to spread their risks, thereby making the system safer. Yet, we should not be deterred by the downside. In the Barings case, the trader (Leeson) did not take enough precautions to match the futures contract on the Osaka Stock Exchange and SIMEX, leaving an open position of $7 billion on the Nikkei, coupled with the loose control over separating back and front offices – which led to the collapse.\textsuperscript{12} While the introduction of new derivatives was desirable, the Barings case also highlighted the need to ensure that supervision of the critical functions was carried out.

\textsuperscript{10} Singapore Business Magazine, April 1998
Regulatory and tax arbitrage is likely to persist for some time to come, and rather than lose the traffic to regulatory/tax havens like the Grand Cayman Islands, Singapore would need to continuously calibrate its responses to the changes in the external operating environment to remain viable.

6.3 CHALLENGES AHEAD

The rest of this chapter will focus largely on the emerging trends that would have an impact on the growth of financial markets. From a developmental perspective, the growth of capital markets requirement several fundamental factors to be met:

- Ensuring transparency and good corporate governance of firms;
- Keeping ahead with technology and competition to attract business volume, speed of information flow and accessibility;
- Ensuring sound market structures;
- Providing enlightened regulation.

6.4 TRANSPARENCY AND CORPORATE GOVERNANCE OF FIRMS

6.4.1 Transparency is needed for investor confidence. In encouraging investors to participate in capital markets, the importance of transparency and good corporate governance could not be overstated. Before the crisis, investors in Asia needed only enough transparency to make a profit. Post-crisis, demands for greater transparency for
closer scrutiny has increased.\textsuperscript{13} Although Singapore has been credited for its sound accounting practices, there was still room for greater transparency in financial reporting and corporate governance, if firms were to increase the level of equity investments. A Political and Economic Risk Consultancy (PERC) survey found that Asian firms were less open with their financial information about their operations, as investors had hoped for. Results of the survey of 1200 foreign executives working in the region complained that despite widespread expectations the crisis would spur greater transparency, 10 out 11 Asian countries received a lower rating in 1999 as compared to 1998.\textsuperscript{14} Singapore continued to rank highly together with Hong Kong in the transparency survey, although PERC postulated the deterioration could be due to a large influx into Singapore of companies from Indonesia that need a more secure base from which to conduct their business. Though many of these firms were listed on the Singapore stock exchange, but they may well be retaining their old habits of minimal disclosure in Singapore. Despite the government's best efforts to provide a transparent environment, it could be that respondents who have to deal with such companies were finding it more difficult to understand who owns what, how stable the business base was, and what their actual financial risks were. This may well be a transient problem as Singapore continued to improve reporting and disclosure standards for companies listing on the local stock exchange. A fine balance would need to be struck such that sound foreign companies were not turn away due to the more stringent financial accounting requirements to have higher disclosure standards. Such firms would bypass Singapore and congregate at other exchanges that offer greater latitude and leverage on regulatory arbitrage. Tactically it

\textsuperscript{13} Wall Street Journal Article. (24 Nov 1999) “Asian Firms Grow Even less Open with Investors”.

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may make sense to set a minimum requirement so as to keep the firms coming, but in the longer run, this may erode the confidence in the listing and reporting criteria set by the Singapore exchange. It would be prudent to adhere to the fundamentals so that the overall confidence in SGX system could be enhanced, and raising reporting and disclosure standards should be implemented in due course.

6.4.2 Role of Rating Agencies. Credit agencies play an important role in disseminating information and bolstering market discipline. Although the early warning performance of credit agencies in flagging potential trouble in the region was felt to be inadequate during the crisis, we should acknowledge that they too face the same problems in transparency issues. Apart from the Moody and Standard and Poor, which are leading credit rating agencies, local firms could be established so that expertise in credit ratings could develop in Singapore. As part of the development of market institutions, the ability of credit agencies to develop better market knowledge and regional contacts would help to increase the credibility of their ratings.

6.5 TECHNOLOGY & MARKET STRUCTURE

6.5.1 Technology and Increased Capital Flow. Information technology has the biggest impact on securities markets over the past 20 years. Increased computing powers have made their way into the trading floors, and electronic trading has accelerated the flow of orders, transactions, and ultimately – funds. Santarelli (1995) argued that these changes have engendered an earlier shift in financial structure in industrial countries which relied

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14 PERC. (17 Nov 1999). “Transparency Problems in Asia”, Excerpt from Asian Intelligence Issue #547
on capital markets, while emerging markets were slower in making the transition due to its rate of development. With the Internet, the rate of diffusion may be discontinuous and abrupt: the playing field could be leveled as economies leapfrogged into the next technological curve and plug into the new information architecture. The shift to capital markets may be accelerated as a result.

6.5.2 Impact of Technology on Markets. The traditional structure of an exchange as a mutual association controlled by intermediaries is a remnant of the pre-computer era, when traders carry out transactions in a trading pit. The mode of operations is commonly known as the open-cry system, which operate like an auction, matching a buyer and seller through open price discovery. Limitations of space required rationing access, which was done on the basis of selling memberships. The members necessarily then became intermediaries for other traders. Intense competition for market share was forcing the change in the old model. In an electronic environment, access need not be limited to intermediaries, and significant trading cost reductions may be achieved by reducing unnecessary intermediation.

For now, the race to internalise and deploy the new financial technologies would drive the dynamics in the competition in financial markets. Advances in both hardware and software are speeding up and streamlining the collection and analysis of data, initiation and confirmation of transactions, clearance and settlement of trades. In effect, electronic trading technology:

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• is cost-efficient, both in the sense that it lowers start-up costs for new systems and reduces continuing operating costs substantially.

• changes the dynamics of the marketplace by removing physical constraints such as geography and the number of participants in a market.

• creates a great potential for disintermediating the markets, allowing buyers and sellers to meet directly.

The benefits of technology allow SGX to gain speed and improve its services. But, technology is also threatening the local traders who may lose their jobs as their functions could be replicated at lower costs. We could expect some resistance to change as they could eventually be bypassed. Moreover, the effects were likely to be felt globally as the threat affected all exchanges. Once the exchanges around the world start to shift to the fully electronic system, the process would be irreversible and could only be implemented with increasing speed. At the local level, Singapore banks are competing to shift more and more of their operations online, adding to the pressure for SGX to be compatible as well. The question for SGX to go fully electronic is not “if” but “how fast”.

Based on the Deutsche Terminböse (DTB) experience, it was clear that the computerised electronic system was the undisputed winner. In the battle for the German bond market, the London International Financial Futures Exchange (LIFFE) was the market leader. Yet, as soon as the DTB entered the competition with a full electronic system, it was able to wrestle the trade from LIFFE, increasing its market share from 30% to 90%.17 Jörg

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Frank, CEO of Eurex, noted that LIFFE was slower in switching from the traditional system and paid the price of losing its market share. The choice is clear for future financial markets – upgrade or die.

6.5.3 Improving the Efficiency of Stock Exchange. The fundamental functions of an exchange in involving trading, clearing, settlement and depository transactions remained unlikely to change. In order to differentiate itself, the SGX has to improve its efficiency. The newly created SGX brought together two markets to better provide closer coordination and greater convergence of the securities and derivatives markets in both trading and clearing, which should improve efficiency and reduce costs for investors and intermediaries. It also provides the conditions for designing hybrid products straddling the two markets – which would increase the breadth of the market, as well as improving the liquidity. Exhibit 2 shows the infrastructure of market design, the range of products traded and the clearing times of major exchanges, including New York, Tokyo, Hong Kong and Singapore. A comparison of clearing times shows that Singapore has to improve its processes to shift towards T+3 (i.e. 3 days after orders), which is the industry norm for equities, and T+1 for derivatives. For bond trading, trading efficiency has been enhanced through the MAS Electronic Payments System (MEPS) and MAS' SGS Book-Entry clearing system, that allow trades to be settled by (T+1). Trading at the equity side takes longer. Presently, it takes 7 days to clear an equity order in Singapore (for derivative, forex and bond trading – the timing are in line with the international benchmarks), which may be too slow for global investors when they compare with other exchanges.
6.5.4 **Disintermediation and Market Fragmentation.** By providing a means for natural buyers and sellers to meet without a market intermediary, electronic trading technology has a great potential to disintermediate markets. Such a notion may threaten even the long-term prospects of existing exchanges. Locally, if alternative trading systems were established, there could be a danger of market fragmentation. Unlike US markets, which form nearly half the world’s capitalisation,\(^{18}\) small markets like Singapore (0.56% of world capitalisation) may find that fragmentation of local markets may be undesirable. With a fragmented market, the lowering of liquidity may result as the volume becomes distributed in several markets. At the same time, price discovery would be more difficult as investors need to check several markets, leading to possible information asymmetries. In which case, volatility increases and market spreads widen.

The SGX cannot afford to be myopic and rule out the benefits that ATS bring. Instead, there is a need to be study the possibilities and the means to improve the efficiency of SGX. Although still in its formative stages, the Internet has already changed the way investors approach the market. Internet usage continues to swell at a ferocious pace, resulting in a surge in the quantity and quality of information available to investors and rapid growth in trading on-line. The US example reveals some insight on the potential growth. At present, a reported 147 million people use the Internet worldwide, with approximately 77 million of them in the United States. Approximately 21 percent of all domestic households have access to the Internet, and predictions are that there will be 300

million users worldwide by the end of the year 2000, and 720 million by the end of 2005. At the same time, the establishment of alternative trading systems (ATS) which allow trades that bypass the traditional exchanges was prolific. The SEC noted that 37 ATSs have registered with the Commission to operate as trading institutions. Traditional securities that rely on a great deal of banking intermediary services in the primary market, such as bonds, have also started to be e-traded. Even the secondary markets were waiting to burst onto the scene: Goldman Sachs will offer the World Bank’s e-bonds on its proprietary electronic system, “Web.ET”.

6.5.5 Singapore Context. Several implications arise from this trend. Domestic investors may shift their funds overseas in search of better returns, and this could erode the basic supporting volume in Singapore – bearing in mind the high savings rate. Retail brokers may have to find new ways to attract and retain retail customers in the future, as the next generation of Internet savvy investors may be able to do without them. At the institutional level, the pressures would be on costs of transactions, and exchanges or alternative trading systems (ATS) using electronic communications networks (ECN) to provide better spreads may bypass markets which are too costly to operate in. This in turn puts pressure on the commission charges, clearing times and quality of price information if ATS develop in Singapore.

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19 R Newswire, (10 Feb 1999) (reporting statistics provided by the Computer Industry Almanac Inc.)
20 Unger, SEC Chairman, first released these figures at the Bond Market Association, Fifth Annual Legal and Compliance Seminar, New York, 28 Oct, 1999. Of these, 15 trade fixed-income products.
21 The Economist. (17 Jan 2000). “E-bonds, Licensed to Kill” Philadelphia municipal bonds were the first traded online this year.
In defence of the exchanges, the process of price discovery will continue to be established in exchanges. Unless the ATS become exchanges themselves, they would continue to need the SGX to generate the market information. If exchanges become fully electronic, these ATS may be obsolete – hence there is an ongoing clash between the two trading models. The value the exchange brings must therefore be in providing information to the members of the exchange through aggregation of demand and supply. It would be a while more before the alternative trading systems compete with SGX, as these start-ups need to establish the credibility, information services and the volume. With reducing transaction costs and telecommunications, the possibility of new entrants could not be ruled out.

The bottom-line seems to indicate that the SGX has to continue to provide value, and increasingly the quality of information at lower costs so that both domestic and institutional investors would continue to find trading at SGX attractive. Bryan, Fraser, Oppenheimer, Rall (BFOR 1999) articulated the idea of a “sliver” as a specialised product or service that is economically viable at the global level. With lower costs in transactions and electronic delivery, BFOR argued that the competition on electronic distribution networks would force a higher degree of specialisation.22 The time zone advantage that Singapore enjoyed would still continue to be valid, although with 24-hour trading, this too might be eroded. However, by specialising in specific “slivers”, and leveraging on the reputation and branding of the exchange, SGX could define its place on the electronic landscape.

In the context of trying to attract more foreign listing and capital flows to SGX, the ATS approach in replicating prices from main exchanges may be useful for Singapore to emulate in support of 24-hour trading. At the same time, the concept of opening up trading via the Internet could be extended to not just domestic investors, but to also create a more open trading architecture where foreign investors could log on and start trading. A US model could be modified to allow the SGX to retain the clearing functions are carried by the exchange, whilst the “limited” ATS could participate in the retail and marketing part of the trading value chain. In this way, the SGX would not be totally left out, although the price discovery process may lead to some degree of market fragmentation. In terms of extending this concept to the different markets, particularly secondary markets, it would probably be feasible with begin with the equity market. The recently boosted bond market would continue to be traded via brokers and traders.\textsuperscript{23} In future, the plain vanilla type of bonds such as T-bills could be traded readily electronically and secondary markets could proceed readily. For more complex bonds and larger issues, investment banks would probably still serve the primary market at the issuance stage.

\textsuperscript{23} Currently, 8 primary dealers provide liquidity in the market by quoting two-way bid and offer prices on all issues under all market conditions. There are 19 secondary dealers among banks, merchant banks and stockbroking firms, which deal with customers in amounts ranging from S$1,000 for bonds to S$10,000 for T-bills. Another 148 banks have book-entry SGS accounts with MAS (inclusive of primary and secondary dealers) for their own trading.
6.6 FORMING GLOBAL AND REGIONAL LINKAGES

Putting regulatory obstacles aside, the state of technological development offers a distinct possibility for establishing a global exchange, linking up regional and local exchanges. In mid-1999, the largest US ECN company, Instinet, announced a plan to use online trading technology to connect the major exchanges in the world to facilitate trading of securities. After achieving initial success in the US (capturing 20% of NASDAQ trading volume in off-exchange trading), Instinet, is taking the electronic revolution to the cross-border trading business to fill the gap between global capital markets and national stock markets by linking investors, issuers, and exchanges worldwide. Other ECNs such as Softbank in Japan and E*Trade in US are also venturing abroad to form an extensive network for global trading. E*Trade’s recent acquisition of TIR Holdings has given it access to over 600 institutional investors in 35 countries. The race to form a global network has started. Although the traditional exchanges will resist the loss of market share to ECNs, these exchanges themselves are also driven by the intense competition to go fully electronic. This might eliminate the role played by ECN, but by then ECNs like Instinet and E*Trade would have been one step ahead in the global connectivity game.

24 Fortune International (16 Aug 1999) “Think Globally, Destroy Locally. How Instinet Plans To Dominate the World” Founded in 1969, Instinet is a member of 18 stock exchanges worldwide and maintains 1,200 employees in key financial centers. The company also operates the world’s largest brokerage network that trades purely on behalf of its clients. In the U.S., Instinet represents more than 90% of institutional funds under management.

25 PR Newswire (13 Jul 1999) “E*Trade Acquires TIR Holdins to Advance Cross-Border Trading Capabilities”. E*Trade combines its technological solutions with TIR’s access to markets and investors may be the new business model, rather than the traditional exchange model. However, overcoming regulations in over 35 countries could take a year or more.
If the global exchange concept emerges as the dominant financial market structure, Singapore could be adversely affected if she is not connected to the global exchange. The competitive advantage of an exchange will depend increasingly on its network intensity and the number of linkages to the other exchanges. Therefore, it has to find new linkages and alliances with emerging ECNs and participate in the new architecture. Moreover, as competition for trading volume intensify, pressures to reduce transaction costs and time will be drive the strategy of SGX. To do this, the first step is to move towards a completely electronic trading system. Next, it has to market its products via the new network to tap global players who have not used SGX before. With the development of the equity, bond and derivative markets, SGX has the potential to be an even more active trading centre for both institutional and retail investors or traders.

When we introduce regulatory and country-specific considerations, then the formation of the global exchange may not materialise as quickly. Some countries may not receptive to the idea of losing control over its stock market and restrict the sale of foreign equities or domestic securities trading off the domestic exchange. National pride and other non-market considerations may be more decisive.

While the ECN phenomenon is likely to cause a major shift in the trading architecture, SGX could not afford to neglect its existing ties either. Established links should be leveraged to create new opportunities. For instance, the Singapore Exchange Derivatives Trading (formerly SIMEX) has agreed on a mutual offset arrangement with the Chicago Mercantile Exchange for 15 years, allowing both to offer a mutual offset system so that a
client can open a contract in one exchange and close it in the other. This arrangement reduces overnight risks and transaction cost and bridges the 13-hour time gap between the two centres. Now this arrangement is being expanded and strengthened to become the GLOBEX Alliance, involving more exchanges in other countries. Before foreign regulators give their approval to such exchange alliances, they invariably want MAS to enter into information sharing arrangements with them. In the case of the SIMEX-CME linkup, MAS has had a long-standing arrangement for mutual assistance with the US Commodity Futures Trading Commission. Now with the GLOBEX Alliance, which includes the SBF-Paris Bourse, MAS has recently entered into MoUs on mutual assistance with the French regulators. Other linkages, such as the SES-NASDAQ linkage, has provided Singapore technology companies access to NASDAQ and vice versa.26

At the regional level, forging alliances with exchanges within the same time zone would allow greater interactions, particularly in the creation of a common platform for the trading and clearing of securities and derivatives. As the region recovers, funding needs are likely to rise, and such alliances can open up opportunities for Singapore. This is not to suggest that there is a hierarchy of exchanges, but a network of exchanges with specialties where mutual benefits could be derived.27 For example, closer alliances can be formed with Hong Kong. With China working hard to establish Shanghai and

27 Galper. (1999) “Three Business Models For the Stock Exchange Industry” FIBV Working Paper. Galper went further by proposing that eventually exchanges could be merged to form regional exchanges or even into major global centres. Potential candidates for the latter include London, NYSE and Tokyo. By implication, smaller ones could aspire to be part of a regional exchange and reap benefits of information sharing and trading of cross-listed securities.
Shenzhen as financial centres, Hong Kong’s position in the long run may be diminished. To widen its market base, Hong Kong could benefit by allowing SGX to trade securities and derivatives such as the Hang Seng Index, whilst gaining a spread on the transaction fees on Singapore. Reciprocating, securities on the SGX can be listed on the Hong Kong Stock Exchange. As Wu (1997) observed, the two financial need not be a zero-sum game if both sides could complement each other.\textsuperscript{28} Singapore, with its strength in forex trading, could offer derivative products for the HK exchange, while Singapore could leverage on Hong Kong’s size and depth in the equity market. In terms of offshore banking, the conflict may be perceived rather than real: Hong Kong serves as a conduit for funding in China, Taiwan and Korea while Singapore concentrates on Asean 4.

6.7 REGULATIONS AND LAW

Financial markets work freely only with an appropriate set of ground rules operating in the background, which everyone knows and plays by. Regulators and enforcement agencies must be able to promptly detect and deal with actions that harm investors. If investors lose confidence in the integrity of our securities markets, we will enter a vicious cycle. Stock valuations will be poor because there is little secondary activity. Good companies will shun listings on the market, while doubtful ones embrace the opportunity.

6.7.1 Enhancing Regulatory Efficiency. Regulatory work will in future have to deal with the impact of electronic trading as market demands for greater speed and performance increases. Also, the blurring of "broker-dealer" and "exchange" boxes as we

see today would mean that new definitions and tools would be needed to monitor and regulate the stability of the trading system. Additionally, apart from providing better infrastructure, the Singapore Exchange would have to uphold its reputation for fair play and update its anti-fraud policies to differentiate itself.

6.7.2 Updating Rules Regarding Insider Trading. The two principal pieces of legislation governing trading on the securities markets are the Securities Industry Act ("SI Act") and Futures Trading Act ("FT Act"). While the latter was substantially amended in 1995, the former has not been amended since 1986, when it was enacted. For example, our insider trading provisions, which are found only in the SI Act, were drawn from 1980 Australian legislation. Whereas Australia's practice has subsequently evolved, and their legislation was amended in 1991, Singapore's laws risk being dated. Work has been done to provide for civil remedies for insider trading, in line with leading standards set by the SEC, and Securities and Futures Commission in Hong Kong.

6.7.3 Getting Ready for Cyber-Scams. Given the difficulty in policing the information published on the Internet, the MAS would need to be vigilant and aware of the fraudulent schemes that may beset the Singapore markets. Cyber-fraud would be an area of concern. As the US experience revealed, cyber-scams cut across equities, bonds, and even foreign exchange transactions. The SEC has found brought 66 cases of fraud to trial, and detected a rising number of incidents since 1995. These cyber-scams usually involved

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offering frauds and market manipulations. While these scams are nothing new, the Internet facilitates their perpetration by virtue of its speed, low cost, and relative anonymity. In order to preserve the transparency and credibility of price quote, SGX would need to guard against market manipulation. Typically, the manipulator would use the Internet to drive up a stock’s price in the secondary trading market by creating demand through the dissemination of false and misleading information. The manipulator normally owns shares in the company’s stock and sells out after the price is artificially inflated. When the manipulation is complete, the share price normally collapses, victimizing those who purchased during the scheme at higher prices. Anti-fraud measures would need to be updated to preserve the integrity of the trading system in Singapore.

6.8 SUMMARY

The development of capital markets has been identified as a way to reduce the over-reliance on banking, thereby acting to stabilise the overall financial centres. Singapore has a strong lead in the forex and derivatives market owing to enlightened regulation and favourable tax rules.

The next areas for development would be to enlarge the equity and bond markets to provide longer term funding. This would largely depend on the demand for funds from domestic and foreign firms. This thesis highlighted the importance of raising domestic start-ups to increase the supply of listing candidates on the Exchange, whilst recognising that MNC investments will continue to play a significant role in the economy. With
regard to the bond market – the MAS initiative would open more opportunities to attract more trading firms to the secondary market, and boost Singapore as an excellent location for bond trading.

In order to serve this role, Singapore would need to differentiate itself by providing state-of-the-art trading services and infrastructure. Exchanges worldwide are facing the threats of off-exchange trading growing. The US, being the most largest and sophisticated equity market in the world, has given us a glimpse of the future. Trading costs and commission will be on the decline, and therefore the competition for volume will intensify. At the same time, there is a need to specialise so that an exchange can be noted for the products and services provided. In the electronic age, geographical advantages can be eroded relatively easily. The case of LIFFE losing a substantial market share in the German bund illustrates the need to be agile and respond to challenges posed by technology.

The problems of lack of transparency and low disclosure standards remain an issue for the region. For Singapore to differentiate itself, it will need to develop a credible set of listing and accounting requirements to be put in place. By putting the investors first and gaining their confidence, Singapore attains the position of matching the demand for funds with willing investors. To strengthen the system, the legal framework will need to be more sophisticated, anti-fraud measures would also need to be updated to meet the challenges posed by trading over the electronic medium.
CHAPTER 7
CONCLUSION

7.1 MAIN IDEAS

Singapore has weathered the Asian crisis relatively well, and with signs of recovery showing in late 1999 and early 2000, the prospects for further growth in the financial sector look more positive. However, it would be premature to say that subsequent financial crises would not occur. As trade and finance become more integrated regionally and globally, we should expect externalities to have a great impact on Singapore’s economy. At the same time, with computer, IT and telecommunications technology accelerating the pace of business and financial transactions, there are opportunities to create wealth, just as there are pitfalls.

Singapore remains vulnerable to externalities as the crisis has shown, but it has also been able to ameliorate the effects by ensuring that the fundamental economic factors were well balanced. By accumulating current account surpluses over the years, it avoided the risks of speculative attacks its currency. Additionally, by allowing the currency to float based on a trade-weighted basket of currencies, the Singapore dollar remained competitive. These factors set the stage for stability, which is an important underlying factor for building an international financial centre.
Chapters 2 to 4 underscore the importance of a sound banking system and capital markets as alternative sources of financing. It is clear that it would take a while before a new international financial architecture would emerge, as there was little consensus about how best to institutionalise and operationalise the new framework. In the interim, the banking guidelines as spelt in the Basle Core Principles would serve to protect Singapore banks. Moreover, with the MAS advocating a shift towards risk-based regulation and away from capital reserves, banks now could now be given more latitude to make their capital work harder. With fewer regulatory constraints, the onus was on the banks to institute prudent risk management and monitoring systems. There was a need to build-up a larger pool of expertise in financial engineering as banks implemented Value-At-Risk (VAR) and stress testing methodologies. Upgrading of credit assessments and criteria systems in granting loans and stronger capabilities was also necessary, in tandem with improvement in disclosure standards in Singapore. There were still risks in the regional setting, and this would be a challenge as local banks aimed to broaden their customer base in the region.

The thesis also suggested the concept of safety nets as a fallback position for banks as they leverage up their lending profile. This may take the form of a deposit insurance or credit line, but it need not be explicitly stated. Concerns about moral hazard would need to be ironed before the government proceeded. Issues relating to limiting the coverage, types of deposits and risk sharing were important considerations. Whilst many countries and even BIS have agreed that safety nets have a role and have explicitly provided the coverage – the official position was not to have any safety net. If the 2+1 model eventually took shape, the
argument of “too-big-to-fail” may be invoked to provide some facility for local banks to work through financial stresses to avoid collapse. This arrangement need not be explicit, but implicit to allay fears of moral hazard.

Next capital markets. The crisis also revealed the vulnerability of being over-reliant on bank financing and short-term loans. A shift towards capital markets using both equities and bond allow for longer-term financing. For this to work, the region will need to be open to foreign funds to flow in. The problem of capital controls showed that it was likely to undermine investor confidence – something Singapore has avoided to preserve its reputation as an international financial centre. Such controls would potential reduce transaction volume as capital would flow along the path of least resistance (in terms of controls and transactions costs). On the other hand, the price to pay for liquidity is volatility.

Chapter 5 examined the opportunities for retail, corporate and institutional banks in Singapore. As the regional economies restructured their banking sectors and recapitalise, there were opportunities to be seized. Merely adding an asset to the balance sheet would not be strategic – it must be with the view of enlarging the business or to penetrating markets, which were difficult for reasons of regulations or lack of local knowledge. A common theme that runs across the thesis is technology. On one hand, technology will force banks to provide better retail and corporate banking services, or risk being bypassed when customers look for responsive and customised services on the Internet. As the competition for the online market-space was still being played out, the default brand or bank has yet to emerge.
Local banks would need to move at speed in order to leverage their competencies to remain in the game. As the region becomes better connected, the potential to provide better At the institutional banking level, the objective of developing large-scale investment capabilities in local firms will increase the efficiency and returns from the capital deployed. Operating in the region would also require in-depth understanding of host-country regulations, strong contacts with customers and local agencies. While there is a need to be more efficient in the provision of banking services, understanding the country risks is even more important before deciding to launch into acquiring foreign banks in sale. The use of joint ventures could expedite the learning process, subject to the economic feasibility of the project.

Chapter 6 was in response to the need to develop capital markets, and discussed the potential in the equity, bond, forex and derivative markets in the next 3-5 year timeframe. Technology in IT, the potential spread of global online and electronic trading meant that location may increasingly be irrelevant. In the absence of regulatory protection, exchanges need to redefine their differentiation strategy, and must be more cost competitive in order to attract traders and trading volume. Capital markets also need to be upgraded to the electronic platform in tandem with the demands from banks, institutional investors and retail customers. With ECNs as the emergent phenomenon, exchanges that operated under the traditional paradigm are likely to lose their market share and may be reduced to just the providing price quotes, while the bulk of transactional volume occurs off-exchange.
Singapore could no longer rely solely on its traditional positional advantage of straddling between the US and Europe in terms of time zone. SGX must rapidly develop a trading infrastructure that enables it to be connected to the global trading networks. The first order business activities would involve providing better information in terms of price discovery, clearing and settlement services and trading products on a 24-hour basis. SGX has to capture a sliver of the trading value chain such as providing quality information and speedy clearance at competitive rates to attract and retain customers. To achieve a sustainable edge, the SGX has to devise specialised and innovative services that could not be readily replicated by other exchanges. Areas for specialisation could include clearing and settlement functions at very competitive price points, and designing derivatives that would meet the demands of corporate treasury functions. A combination of liberalisation, no taxes on capital gains and dividends and capital control were essential in creating a conducive trading environment.

Finally, a great deal of credit must also be attributed to the Monetary Authority of Singapore, which has been pro-active in shaping the growth of the financial sector with a powerful vision. Its characteristic firm and prudent regulations, close internal coordination with economic, legal and tax agencies, and consultation with the private sector has been remarkable. It remains for the financial institutions and private sector to set their goals and take it to the next level and thrive.
Details of Liberalisation Package
(Extract from MAS Press Release MAY 18 1999)

To achieve these ends, MAS will introduce a programme with the following elements:

- Five-year programme of liberalisation.
- Improving corporate governance practices.
- Lifting the 40 per cent foreign shareholding limit.

5-YEAR PROGRAMME

MAS will implement a five-year programme to liberalise access by foreign banks to Singapore's domestic market. As the change is a major one and there is no certainty as to how the industry will develop in Singapore and abroad over the next five years, MAS will commit to a definite package only for the first three years. Thereafter, it will review the progress made before deciding on further liberalisation measures.

In this first stop, MAS will open the door to new full and restricted banking licences, as well as increase access to the domestic market by foreign full, restricted and offshore banks that meet qualifying conditions, as set out below.

**Full banks:** MAS will create a new category of full banking licence, to be known as qualifying full banks (QFBs), to distinguish them from the existing class of foreign full banks. Incumbent foreign full banks that are not awarded QFB status will retain their existing privileges. All future admissions or upgrading to full bank status will be to the new QFB category.

MAS will issue up to six QFB licences to foreign banks over 1999-2001. Each QFB will be allowed additional branches, off-premise ATMs and ATM sharing as follows:

- Up to 10 locations -- branches and off-premise ATMs -- of which, up to five can be branches.
- No more than two new branches and three off-premise ATMs to be set up each year following issuance of QFB licence.
- QFBs which already have more than five branches will be capped at their present number, but will be allowed up to five off-premise ATMs.
- Free re-location of existing branches.
- Sharing of ATMs among QFBs.

MAS will allow foreign full banks that are not QFBs to relocate their existing sub-branches on a case-by-case basis.

**Restricted banks:** MAS will increase the number of restricted banks from 13 now, to 18 by 2001. This will cater to offshore banks who want to expand their wholesale Singdollar banking business, but are not interested in the domestic retail business.

**Offshore banks:** Offshore banks will be given greater flexibility in Singdollar wholesale business. Qualifying offshore banks approved by MAS will have their Singdollar lending limit increased from the current $300 million to $1 billion. They will also be allowed to engage in $S$ swaps, without any restriction on the purpose of the swaps.

All other offshore banks will have their S$ lending limit raised to $500 million. They will be allowed to engage
in S$ swaps in respect of proceeds arising from the issue of S$ bonds managed or arranged by them.

**Eligibility conditions for increased access**: MAS will not open the domestic retail market indiscriminately. It will grant increased access only to foreign banks that are strong, well-managed and committed to growing in Singapore. This is necessary to maintain high prudential standards, minimise risk to local depositors, and develop a competitive financial centre.

The principles for evaluating applications for QFBs, restricted and qualifying offshore banks will be:

- Credit and legal support ratings of the institution over the last three years.
- Track record of compliance with MAS’ regulations, and adequate internal control systems as determined by MAS’ examiners or external auditors.
- Commitment to contribute to Singapore’s development as a financial centre.

**CORPORATE GOVERNANCE**

The Government has protected and nurtured the local banks, and enabled them to grow to their present size and strength for a national purpose: to enhance the resilience and stability of our banking system. If the liberalisation weakens local banks and displaces them from their pivotal role in the domestic banking system, it will have failed.

This has happened to some countries that opened up their domestic banking sectors. For example, in Scandinavia, local banks over-extended themselves in the more intense competition, ran into serious trouble, and had to be bailed out by the governments. In New Zealand, all major local banks have been bought out by foreign parties, leaving no significant local players. This outcome is acceptable to New Zealand, but Singapore’s circumstances are different. We must ensure that the result of liberalisation is that local banks strengthen themselves and grow, so that they can continue to underpin the financial sector.

To survive in the new environment, local banks must put increased emphasis on efficiency, quality of service and shareholder returns. Most important, they must strengthen corporate governance, attract top talent and give them the necessary mandate to make professional management decisions. Only then can they build up stronger corporate teams, and capabilities comparable to the major international banks operating in Asia.

Nominating committees: The local banks need to institute systems for ensuring the appointment of capable individuals to their boards and key posts. To strengthen corporate governance, MAS will require all local banks to appoint Nominating Committees within their boards, and to provide for this in their Articles of Association. The Nominating Committee will comprise five board members. Their appointments will be made by the board, and subject to MAS’ approval.

The purpose of the committee is to ensure that only the most competent individuals, who can contribute to the bank and discharge their responsibilities in the interests of all shareholders, are appointed to the board and key management positions.

MAS will issue a notice to local banks to spell out the roles and functions of the Nominating Committee. The committee will be responsible for identifying candidates and reviewing all nominations (by the board or shareholders) for these positions:

- Board membership (for both appointment or re-appointment).
- The Executive Committee of the board.
• The Compensation Committee (local banks without such a committee now or its equivalent will be required to set one up).
• The Audit Committee.
• The chief executive officer/deputy chief executive officer/president/deputy president.
• Chief financial officer.

The names recommended by the Nominating Committee will then be decided upon as usual, by the board or shareholders as appropriate.

In identifying candidates and reviewing nominations, the Nominating Committee will apply the following guidelines:

• The board should comprise a majority of Singapore citizens or permanent residents.
• The board should have a majority of independent directors who are not related to or employed by substantial shareholders of the bank (those holding 5 per cent or more), or who otherwise act in accordance with their directions.
• Besides the customary criteria of integrity and being a fit and proper person, the Nominating Committee must consider the age, experience and capabilities of the nominee.
• The Nominating Committee must satisfy itself that the candidate is the best and most qualified candidate for the job, especially for appointments to key posts.

MAS will retain its existing powers under the Banking Act to approve appointments to the board, and to key posts such as the CEO and deputy CEO.

Henceforth, re-appointments will also require MAS’ approval, so as to ensure that candidates who may first have been appointed some time ago continue to meet the criteria for appointment. MAS may ask the Nominating Committee to submit records of its deliberations and proceedings, so as to verify that the committee has been diligent in trying to enlist the best person for any appointment.

The proposal to create Nominating Committees has international precedents. About half of US companies have Nominating Committees with very similar roles, including banks such as Citigroup and First Union.

The UK Cadbury Report on Corporate Governance also recommended the setting up of a Nominating Committee comprising a majority of non-executive directors and chaired by the chairman or a non-executive director, to propose to the board, in the first instance, any new appointments of executive or LIMIT.

MAS now restricts foreign investors’ total shareholding in local banks to no more than 40 per cent of the issued shares. The purpose is to ensure that those who exercise control over local banks have national interests in mind.

The policy was introduced in 1971 following the Slater Walker-Haw Par affair. The limit was initially 20 per cent, and was later raised to 40 per cent in 1990. This limit has since been incorporated into the Articles of Association of local banks. The concern that local banks should give priority to the national interest remains valid. However, the foreign shareholding limit has significant drawbacks:

• It has resulted in a two-tier market for local banks’ shares, and reduced liquidity in the local share tranches.
• It has distorted the true market value of local bank shares, and raised the cost of funds to banks.
• It has made it harder for local banks to implement competitive employee share option schemes.
• It has hindered local banks that want to forge strategic partnerships with foreign banks, or pay for overseas acquisitions with shares.
MAS will lift the 40 per cent foreign shareholding limit on local banks. The requirement to create Nominating Committees, and to have a majority of citizens and permanent residents on the board will effectively ensure that control of the banks rests with individuals or groups who will act in a manner consistent with the national interest.

MAS will also tighten existing safeguards on the accumulation of significant ownership in a local bank:

- At present, any individual shareholder or group of associated shareholders must obtain MAS’ approval to increase his shareholding beyond two thresholds:
  - 5 per cent and 20 per cent. MAS will now introduce an additional approval threshold of 12 per cent.

It will approve increases in shareholding beyond 5 per cent only in significant transactions that are considered beneficial to the bank and to Singapore.

Approval to exceed the 5, 12 or 20 per cent shareholding levels may be accompanied by such conditions as MAS considers necessary in order to prevent undue control and to protect national interests.

This may include limits on further increases in shareholding for a specific period of time.

- MAS will expand and clarify the definition of collusion under the Banking Act.
- MAS will consider further deterrent measures, including powers to disenfranchise a shareholder or a group of shareholders found to have colluded to circumvent the shareholding approval thresholds.

MAS will allow individual local banks to remove the 40 per cent foreign ownership limit from their Articles of Association once they have amended their articles to institute Nominating Committees.

Local banks with dual tranches will issue announcements shortly on whether and how they intend to do so.

**FLEXIBILITY**

MAS will review all regulations concerning local banks so as to give them greater flexibility in their operations without compromising prudential objectives. This will include the minimum capital adequacy ratio requirements for the banks and their subsidiaries.

This will enable local banks to compete more effectively as we liberalise and increase the level of competition. MAS will consult with local banks in this review.

As an immediate measure, MAS will issue guidelines to allow local banks to set up a financial holding company structure. Financial holding companies will be licensed and supervised by the MAS. This structure will provide local banks with greater flexibility in organising their operations, especially as they venture abroad, and in forming strategic alliances with foreign banks while allowing both banks to maintain separate legal identities and franchises.

**LOCAL BANK PRESENCE**

Market share: While we encourage strong and well-managed foreign institutions to assume larger stakes in the growth and stability of our financial system, we want local banks to retain a significant portion of the domestic deposit base and payments system in the more open environment.

In a major crisis, we must be able to count on major players with long-term interests aligned with the Singapore economy to act as stabilisers for our financial system.
In developed markets, domestic banks typically have a much larger share of the market than is the case in Singapore. Our local banks now have 62 per cent of total resident deposits (both DBU and ACU). Their share peaked in 1994 and has been declining since.

The Government's policy is to maintain the local banks' share at not less than 50 per cent of total resident deposits.

We will monitor the trends as the liberalisation proceeds, and if necessary adjust the scope and pace of subsequent liberalisation measures to achieve this. But there can be no absolute guarantee that local banks will maintain a 50 per cent market share. The best way is for them to upgrade themselves and hold their own against stronger competition. This, in turn, will most probably require consolidation within the industry.

CONSOLIDATION

In the existing protected environment, local banks have competed among themselves by proliferating branches and ATMs, and maintaining separate but similar support services. The result is duplicated infrastructure and attendant inefficiencies. The liberalisation will make more urgent the need for banks to consolidate. This will enable them to rationalise these overlaps, and share common back-office systems and delivery channels.

Consolidation yields important benefits beyond such one-time savings:

- It will give the banks larger economies of scale to defray high initial costs of technology, and to cross-sell a wider range of products.
- It will give banks the size to venture forth in the region, make acquisitions and strike alliances, should this be their business strategy.
- It will conserve scarce management talent, and help banks to attract more talent. Able people are attracted to larger banks of an international standing, with growth prospects domestically and abroad. Smaller banks with lesser prospects for expansion cannot recruit high-calibre executives.

This is why the Government has encouraged local banks to consolidate among themselves, to achieve that critical size for continuing expansion and growth. The Government has taken the lead, by merging POSB with DBS. However, it cannot dictate the precise configuration that results from further consolidation. Only the shareholders can decide on mergers between local banks. The smallness of our domestic market and the growing economies of scale in banking make it unlikely that Singapore can sustain more than two local banks with that critical size, although there may be other smaller players occupying niche markets.

If we succeed in building up two such strong local banks, our financial system will have two pillars of strength and stability.
## EXHIBIT 2- COMPARISON OF MAJOR EXCHANGES

<table>
<thead>
<tr>
<th>Types of Securities</th>
<th>Trading System /Derivatives</th>
<th>Clearing &amp; Settlement</th>
<th>Settlement Cycle</th>
<th>General Taxes on Transactions</th>
<th>Taxes on Dividends,</th>
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</thead>
<tbody>
<tr>
<td>Shares</td>
<td>SEATS (Screen-based)</td>
<td>ASTC(ASX Settlement&amp; Transfer Corp.) Using CHESS (Electronic Settlement)</td>
<td>T + 3</td>
<td>0.15% on sales and purchases</td>
<td>Residents (Individuals) Dividends : 100% Franked 0-11% Unfranked 0-47% Interest : 0-47% Capital Gains (less Inflation) : 0-47%</td>
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<tr>
<td>Fixed interest debt securities Warrants</td>
<td>&quot;</td>
<td>&quot;</td>
<td>&quot;</td>
<td>None</td>
<td>Non-Residents (Individuals)</td>
</tr>
<tr>
<td>Options over shares/indices</td>
<td>CLICK (screen based)</td>
<td>OCH (Option Clearing House)</td>
<td>T + 1</td>
<td>Generally none</td>
<td>None</td>
</tr>
<tr>
<td>Equity Options</td>
<td>Auction market, open outcry with electronic execution</td>
<td>Options Clearing Corp (OCC)</td>
<td>T + 1</td>
<td>None</td>
<td>Options are subject to capital gains taxation.</td>
</tr>
<tr>
<td>Index Options broad based narrow based</td>
<td>&quot;</td>
<td>&quot;</td>
<td>&quot;</td>
<td>&quot;</td>
<td>Short term gains (less than 12 months) are taxed as ordinary income at marginal rates up to 39.6%. Long term gains are taxed at rates ranging from 10% to 28% depending on the holding period and marginal income bracket. The gains on index options are treated as 60% long term and 40% short term are to market at year-end.</td>
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<tr>
<td>Interest Rate Options Warrants &amp; Index Notes</td>
<td>&quot;</td>
<td>National Securities Clearing Corp.</td>
<td>T+3</td>
<td>None</td>
<td></td>
</tr>
<tr>
<td>Shares Warrants/Debt Securities Unit Trusts/Mutual Funds</td>
<td>Automatic Order Matching &amp; Execution System Screen based</td>
<td>Hong Kong Securities Clearing Co. Ltd</td>
<td>T+2</td>
<td>Stamp duty for registered securities is 0.125% (payable by each buyer &amp; seller)</td>
<td>NIL</td>
</tr>
<tr>
<td>Types of Securities</td>
<td>Trading System / Derivatives</td>
<td>Clearing &amp; Settlement</td>
<td>Settlement Cycle</td>
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<tr>
<td>Stock Options</td>
<td>Traded Options System (TOPS) Screen based</td>
<td>Stock Exchange of HK Options Clearing House Ltd</td>
<td>T</td>
<td>NIL <em>(0.125% stamp duty applies to option exercise, payable by buyer &amp; seller)</em></td>
<td>NIL</td>
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<td>Kuala Lumpur</td>
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<td>Share capital</td>
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<td>- Ordinary shares</td>
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<td>- Preference shares</td>
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<td>Fixed income</td>
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<tr>
<td>- Debentures</td>
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<td>- debenture stocks</td>
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<td>- Loan stocks</td>
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<td>- Notes</td>
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<td>- Bonds</td>
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<td>Warrants / Transferable</td>
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<td>Subscription Rights (TSRs)</td>
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<td>Call warrants</td>
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<td>Property Trusts</td>
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<tr>
<td>Closed-end Funds</td>
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</table>

**Dividend income:**

Deduction of 28% corporate tax at source for all dividends other than tax exempt dividends. A non-resident will receive the full amount of dividend less corporate tax, but will not be entitled to any refunds.

**Primary Market**

Payable on the following:
- Letter of Allotment (RM 1)
- Form of Acceptance (RM 1)

**Secondary Market**

Payable on buyer and seller on all shares / all fixed income securities.

**Domestic & Foreign**

- RM 1 for each RM 1,000 or fractional part of value of securities transacted.
- No capital gains tax.

**Withholding Tax**: There is no withholding tax for residents on either dividends or interest. For Non-treaty non-residents, a withholding tax of 5% applies.
<table>
<thead>
<tr>
<th>Types of Securities</th>
<th>Trading System/ Derivatives</th>
<th>Clearing &amp; Settlement</th>
<th>Settlement Cycle</th>
<th>General Taxes on Transactions</th>
<th>Taxes on Dividends,</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>New York</strong></td>
<td></td>
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<tr>
<td>Stocks</td>
<td>Floor Trading (SuperDot order routing and reporting system) Auction Market</td>
<td>National Securities Clearing Corporation</td>
<td>T+3</td>
<td>None</td>
<td>15%-28% (treated as ordinary income)</td>
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<tr>
<td>Bonds</td>
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<tr>
<td>Warrants</td>
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<tr>
<td><strong>Singapore</strong></td>
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</tr>
<tr>
<td>Shares, bonds, warrants, options</td>
<td>Central Limit Order Book (CLOB) system for all securities (Screen-based)</td>
<td>The Central Depository (Pte) Ltd (CDP)</td>
<td>T + 7 Calendar days</td>
<td>Contract stamp duty of 0.05% on value of contract (currently suspended)</td>
<td>No withholding tax on dividends paid to non-residents. Corporate tax rate of 26% is deducted from the gross Dividends payable. No capital gains tax</td>
</tr>
<tr>
<td></td>
<td></td>
<td>The Options Clearing Company</td>
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<td><strong>Taiwan</strong></td>
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<tr>
<td>Shares</td>
<td>FAST (Fully Automated Securities Trading System)</td>
<td>No independent clearing &amp; settlement organization</td>
<td>T + 2</td>
<td>0.3% levied from the sellers of stock trading; 0.1% levied from the sellers of corporate bonds; Govt bonds and beneficiary 0.1% of market price of warrants levied from the sellers; 0.3% of exercise price levied from the seller if settled by shares; 0.3% of exercise price levied from the issuer, 0.3% of market price levied from investors if settled by cash.</td>
<td>Cash dividends: 15% withholding tax for resident beneficiary 35% for a non-resident beneficiary</td>
</tr>
<tr>
<td>Bonds</td>
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<tr>
<td>Beneficiary</td>
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<tr>
<td>Certificates</td>
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<td>Types of Securities</td>
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</tr>
<tr>
<td>Shares, Stock Investment Trust Certificates</td>
<td>Screen-based trading with CORES</td>
<td>TSE, Japan Securities Clearing Corp</td>
<td>T+3</td>
<td>None</td>
<td>Dividends: Residents: Aggregate or separate (35%) Interests: Residents: Individual: 20% Corporation: taxable Non-Resident: 15%</td>
</tr>
<tr>
<td>Bonds</td>
<td>Bond Trading System</td>
<td></td>
<td>T + 3</td>
<td></td>
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</tr>
<tr>
<td>Government Bonds/Warrants, Yen-denominated Foreign Bonds Futures: Topix, Sector Index Equity/Topix Options Options JGB, US T-Bond, Futures</td>
<td>CORES-FOP</td>
<td></td>
<td>T + 5</td>
<td></td>
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</tr>
</tbody>
</table>
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