5. **Riding the Wave of the Asian Financial Crisis: Taiwan’s Lessons for Emerging Economies**

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I. **Introduction**

Taiwan’s economy has continued to perform well, however, the effects of the 1997/98 Southeast Asian financial crisis were not limited to financial turmoil in other Southeast Asian countries, they also had some impact upon Taiwan, causing exchange rates, interest rates and share prices to fluctuate violently. Nevertheless, whilst Taiwan did suffer from some financial disruption during that period, the impact on its financial markets was comparatively small compared to that in South Korea and in other Southeast Asian countries.

Comparisons of economic performance in Taiwan and in other neighboring Asian economies during the Asian financial crisis are provided at Tables 1 and 2. Table 1 provides data on the economic growth rate, consumer prices inflation rate and the rate of unemployment. Compared with other countries, we find that Taiwan has higher economic growth rate, a lower inflation rate and lower unemployment figures.

Table 2 provides data on fluctuations in the exchange rate and the

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stock price index. Combining the two figures, we find that Taiwan had the least fluctuation during the 1997/98 crisis period. Analysis of the two-year period, from 1997 to 1999, shows that Taiwan, Singapore, Hong Kong, and Japan comprised the group with the least fluctuations.

All of the factors responsible for the Asian financial crisis are in need of analysis, and this paper attempts to probe the reasons behind the limited impact of the crisis on Taiwan, in comparison to other Southeast Asian countries. These reasons are regarded as being attributed to macroeconomic, real sector and financial sector factors. Furthermore, during the management of policies aimed at solving the financial crisis, several issues were deemed controversial, such as the role of the Central Bank, the speed of reform adjustment, the tradeoff between stability and efficiency, and the sequence of reform. All of these issues are worthy of discussion.

### Table 1 Economic Performance of Asian Economies

<table>
<thead>
<tr>
<th>Country</th>
<th>Economic Growth Rate</th>
<th>Consumer Price Inflation Rate</th>
<th>Unemployment Rate</th>
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<tbody>
<tr>
<td>Taiwan</td>
<td>6.7</td>
<td>4.6</td>
<td>0.9</td>
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<tr>
<td>Korea</td>
<td>5.0</td>
<td>-5.8</td>
<td>4.4</td>
</tr>
<tr>
<td>Singapore</td>
<td>8.9</td>
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</tr>
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<tr>
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<td>-7.5</td>
<td>2.7</td>
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<tr>
<td>Philippines</td>
<td>5.2</td>
<td>-0.5</td>
<td>5.9</td>
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<tr>
<td>Indonesia</td>
<td>4.7</td>
<td>-13.2</td>
<td>6.2</td>
</tr>
<tr>
<td>Japan</td>
<td>1.4</td>
<td>-2.8</td>
<td>1.7</td>
</tr>
</tbody>
</table>

Source: Official data released by respective countries.
Table 2  Change in the Exchange Rate and Stock Prices of Asian Economies

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Exchange Rate</td>
<td>Stock Price</td>
<td>Total</td>
</tr>
<tr>
<td>Korea</td>
<td>-35.32</td>
<td>-60.04</td>
<td>-95.36</td>
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<tr>
<td>Singapore</td>
<td>-15.18</td>
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<td>-61.52</td>
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<td>Hong Kong</td>
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<td>-43.78</td>
<td>-43.78</td>
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<td>Thailand</td>
<td>-41.47</td>
<td>-49.30</td>
<td>-90.77</td>
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<td>Philippines</td>
<td>-36.75</td>
<td>-37.34</td>
<td>-74.09</td>
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<tr>
<td>Malaysia</td>
<td>-38.87</td>
<td>-57.71</td>
<td>-96.58</td>
</tr>
<tr>
<td>Indonesia</td>
<td>-83.57</td>
<td>-38.46</td>
<td>-122.02</td>
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<tr>
<td>Japan</td>
<td>-17.41</td>
<td>-23.17</td>
<td>-40.58</td>
</tr>
</tbody>
</table>

Source: Calculated and complied from Economic Daily News reports.

II. Taiwan’s Experience of the Asian Financial Crisis

Before the financial crisis took hold in Taiwan, the stock price index had climbed exponentially. In the first half of 1997, share prices in Taiwan had been rising steadily, from 7,135 points at the end of January, to 9,890 points by the end of August. The stock market was thus already abnormally high, and when the financial crisis struck, the exchange rate, interest rates and stock price index fluctuated violently. The crisis came as a great shock to the government, the financial sector, and to the general public. However, as the turmoil deepened in Asia, and as world stock prices in general began to fall, these factors, together with a shortage of funds resulting from the Central Bank’s foreign exchange intervention, resulted in Taiwan’s stock prices declining significantly from the end of August. Nevertheless, as the financial crisis gradually subsided, New
York stock prices quickly recovered, and along with the resolution of the fund shortage, from December 1997, local stocks prices also began to rise again.

The situation in the financial market, including exchange rates, stock price index and interest rates, can be observed from Figure 1. Exchange rate policy changed in different stages in order to accommodate the changes in the economic environment. When the financial crisis hit Southeast Asia, the New Taiwanese Dollar (NT$) exchange rate fell rapidly against the US dollar, from NT$27.9, to a low of NT$28.7 at the end of July when the Central Bank stepped in to try to protect the NT$, to prevent the exchange rate from falling below this level. The Central Bank allowed the exchange rate to be fully determined by market forces for three successive days beginning on 29th July, and the NT$ responded by depreciating to a lower level which, to the Central Bank’s judgment, was easy to defend. In early August, the Central Bank also raised both the rediscount rate and the interest rate on accommodations against secured loans to assist the stabilization of the NT$. In the following two-and-a-half months, the Central Bank intensively intervened in the foreign exchange market, and also allowed market interest rates to rise, to a certain extent, from 7.7% on October 1st, 1997 to 11.473% on October 7th, 1997. The method adopted was the selling-off of US$ foreign exchange reserves and the buying-in of NT$, leading to a capital squeeze in Taiwan, with the stock market being bled dry.

Share prices had clearly been set to fall anyway, and various factors, working in combination, sent them crashing. Although the Central Bank brought into play its powerful weapon of lowering bank reserve rates, and proceeded to spend billions of US dollars on intervention, they were still unable to affect the capital squeeze.

The expectation of depreciation amongst both business and individuals intensified, and as they increased their sales of NT$, in favor of large amounts of US$ purchases, the Central Bank was forced to change its tack. Having spent US$7 billion on intervention, the Bank finally realized that Taiwan could not successfully resist international speculative attacks solely by her own efforts. Therefore, on October 17th, in order to avoid adverse impacts on the real sector and other financial markets arising from foreign exchange intervention, the Central Bank allowed the NT$ exchange rate to be determined mainly by market forces.
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Figure 1  The Interest Rate, the Exchange Rate, and the Stock Price I

Source: Calculated and compiled from Economic Daily News reports and the Central Bank of China, R.O.C.
Fortunately for Taiwan, the financial markets eventually stabilized and since then, its financial system has been sensitive to changes in the international environment, with the Central Bank intervening in the market occasionally when there was “unjustifiable” depreciation of the NT$. In 1998, the value of the NT$ was affected by depreciation of the Korean Won and the Japanese Yen, demonstrating that the general public are very sensitive to changes in the economic environment, whilst appearing less confident about financial stability.

In the second half of 1998, and the first quarter of 1999, the past-due loan ratio rose alarmingly, caused mainly by the outbreak of the so-called “local” or “internal” financial crisis. Some business groups were encountering financial difficulties, caused in part, by the latent effects of the external Asian financial crisis, and partly due to their own misconduct in fund management, such as cross investment in group members stocks, high leverage, borrowing short to invest long, and engaging in stock price-supporting activities. During the last two months of 1998, the failure of these business groups in turn jeopardized a limited number of financial institutions. The resultant rapid rise of past-due loan ratio was accompanied by a bearish trend on stock prices from August 1998 until February 1999. The stock price index fell from a peak of 7,436 points in November 1998, to hit a low of 5,474 points in February 1999, a loss of 26.4% in less than 3 months. Shea (2000) provides a reaction to the policies and measures adopted by the Central Bank and the Ministry of Finance during this period.

In the examination, at Table 2, of the experiences for the two-year period from July of 1997 to June of 1999, we find that Taiwan’s fluctuations in exchange rate and the stock price index were about the same as in Singapore, Hong Kong and Japan, each of which had a comparatively stable, financial and economic situation.

III. Other Countries’ Experiences

After beginning in Thailand during May and June of 1997, the Asian financial crisis spread rapidly to other countries in Southeast Asia, including Malaysia, the Philippines, Indonesia, and so on, and South Korea also found itself facing the crisis woes. The result was that these countries’ stock markets fell substantially and their currencies were devalued against
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the US dollar. Other countries such as Singapore, Hong Kong and Taiwan were also affected, but not as seriously as those previously mentioned. The development of the financial crisis, and its apparent causes, can be discussed from three particular aspects: macroeconomic factors, real economic sector factors and financial factors.

1. Macroeconomic Factors

   a. The weaknesses in economic fundamentals.

   According to the macroeconomy national income identity, a country’s trade deficit (where imports exceed exports) is equal to the total of the budget deficit (where public expenditure exceeds tax revenue) and private sector excessive investment (where investment exceeds savings):

   \[(M - X) = (G - T) + (I - S)\]


   When a country amasses a trade deficit, this is either as a result of a budget deficit, or excessive investment. When a trade deficit continues over a long period, and the domestic budget deficit and excessive investment cannot be controlled, the country will find itself reliant on increasing quantities of foreign loans. However, if most of this foreign money is in the form of short-term investment and short-term debt, then as soon as it is withdrawn, every sector of the economy, including the financial sector, is liable to lose equilibrium. Economic activity becomes disturbed, sparking off and a further wave of panic and capital flight, and creating serious pressure for currency devaluation. Most of the crisis-hit Asian countries were experiencing trade deficits and excessive investment, whilst some also had fiscal deficits, thus, these countries demonstrated significant weaknesses in their economic fundamentals, upon which the fragile structure of their economies rested.

   b. Formation of a bubble economy.

   For many years, Thailand, Malaysia, Indonesia, South Korea and other countries within the region had maintained high rates of economic growth. However, accompanying this growth were many problems of structural imbalance. Since their economies were growing so fast,
companies in the countries concerned generally held over-optimistic expectations of the potential for economic and market growth. The result of their excessive expansion was that debt levels rose, and the overheated economy led to the development of a “bubble” in both the stock market and real estate sectors. This eventually led to the collapse of both the stock and real estate markets, with many investors suffering severe losses. Once this kind of bubble has developed, it can cause an extremely serious threat to the economy as a whole.

c. Inability of governments to respond effectively.

The market expectations brought on by international financial speculation and rapid capital movement created tremendous pressure on the currencies of all the countries affected, resulting in subsequent devaluation and falls in their stock markets. However, even after these effects were apparent, during the initial stages of the crisis, the governments of Thailand, Malaysia, Indonesia and South Korea had still not really come to recognize the loss of structural equilibrium in their economies; they mistakenly believed that the devaluation was just the result of manipulation by international speculators. As a result, they did not take the necessary, and appropriate measures to respond to the crisis, and subsequently found that they had acted too late to avert the worst effects of the crisis.

2. Real Economic Factors

a. Operating under a protracted trade deficit.

The Southeast Asian countries had all operated for several consecutive years under trade deficits. Even Malaysia, which had enjoyed trade surpluses throughout the late 1980s, experienced transition into deficit in the 1990s. The cause of these nations’ trade deficits can be traced back several years, to 1994, when the implementation of the dual-track exchange rate system led mainland China to devalue the renminbi (RMB), from US$1 = RMB 5.76 to US$1 = RMB 8.62. Cheap export products from mainland China flooded into Southeast Asia’s extensive export markets, leaving these countries with successive years of trade deficits, and planting the seeds for the eventual outbreak of the financial crisis.
b. Excessive investment.

Many corporations in the countries affected by the financial crisis had been expanding wildly. Not only had they been investing heavily in their own original fields, they had also been actively crossing over into other sectors, undertaking diversified operations. In addition, a large number of BOT (build-operate-transfer) public construction projects had been undertaken by Southeast Asian countries in recent years, attracting the attention of many corporations in the region, and constituting a further cause of excessive investment.

3. Financial Factors

a. Excessive levels of foreign debt.

According to data for October 1997, Thailand’s foreign debt at that time was running at around three times its foreign exchange reserves; in the Philippines, the figure was around four times; and in Indonesia, it was as high as five times its exchange reserves. Clearly, even if the governments of these countries had used their entire foreign exchange reserves, it would still not have been sufficient to pay off their foreign debt, since these countries’ levels of foreign debt were several times larger than their reserves. Add to this the loans obtained overseas by private corporations, and the total foreign debt figure grows substantially. But whilst foreign debt was increasing rapidly, export growth rate was falling, providing conditions for a worsening situation. In addition, the structure of the foreign debts of most of these countries demonstrated particularly high levels of private sector foreign debt and short-term loans.

b. Foreign investment as a high proportion of total stock market value.

Without having first established sound fundamentals and a healthy industrial structure, these countries had rashly opened up their financial systems and their capital accounts, despite several years of continued deficits. As a result, foreign capital poured into the stock markets, to the extent that the amount of foreign debt, as earlier mentioned, far exceeded the foreign exchange reserves of the countries in question. Foreign investment accounted for an extremely high proportion of the stock market value of many of these nations, in the case of Indonesia, for example, it
Taiwan, East Asia and Copenhagen Commitment

exceeded 60%. As soon as there was any hint of upheaval in the international financial markets, countries reliant upon so much foreign money were liable to find themselves being hit very hard, and lacking the capacity to fight back. Naturally, if the foreign investors were to quickly withdraw their capital, the results would be catastrophic. And since most of this short-term foreign investment was speculative in nature, there was an ever-present danger of this situation occurring.

c. Poor loan quality, and worsening corporate finances.

The financial systems of the Southeast Asian nations and South Korea were far from sound. Over a period of many years there had been serious collusion between the government, and the corporate and financial sectors, resulting in a situation in which regulations governing financial control were ignored, and the personnel employed within the financial system had very poor risk awareness. These factors resulted in poor loan quality; companies’ excessive investment and the collapse of the real estate bubble left financial institutions saddled with excessively high levels of bad debt. During the course of 1997, in South Korea, eight large conglomerates went bankrupt one after the other due to their accumulated debts. Also in Indonesia and Thailand, the poor quality of the loans issued by the banking sector, resulted in successive failures of several large financial institutions. The non-performing loan ratios in the Asian countries before and after the crisis are revealed in Table 3. Most of these countries continue to suffer from rising non-performing loan ratios in the aftermath of the crisis, notably however, Taiwan’s non-performing loan ratios did not change as much as in other countries.

<table>
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</tr>
</thead>
<tbody>
<tr>
<td>Pre-Crisis</td>
<td>8.3%</td>
<td>9.3%</td>
<td>5.8% (1997)</td>
<td>3.7% (1997)</td>
<td>4.7% (1997)</td>
<td>3% (1997)</td>
<td>3.82%</td>
<td>2.6%</td>
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<tr>
<td>Post-Crisis</td>
<td>49.4%</td>
<td>58.7%</td>
<td>8.7% (Jun 1999)</td>
<td>13.4% (Aug 1999)</td>
<td>13.5% (Jun 1999)</td>
<td>10.05%</td>
<td>5.2%</td>
<td>6.1%</td>
</tr>
</tbody>
</table>

Source: Compiled by the Sakura Research Institute
IV. Taiwan’s Performance During the Asian Financial Crisis

Despite the adverse impacts, the Taiwanese economy still grew at a rate of 6.7% in 1997, its highest annual growth rate for the previous five years, and although it fell to just 4.6% in 1998, this still represented the highest growth rate amongst all the neighboring Asian countries. Clearly, the Taiwanese economy suffered much less than most of the Southeast Asian countries which had come under attack from international speculators, and it is worth analyzing several factors which contributed to such stability. These factors can be classified under the four main headings of the macroeconomy, the real sector, the financial sector and social factors.

1. The Macroeconomy

   a. Sound economic fundamentals.

      Taiwan has maintained a trade surplus for decades with savings being consistently higher than investments. The sound fiscal budgetary system of the past had served Taiwan well for 30 years, until the mid-1980s, but even though a fiscal deficit has appeared in recent years, it has not unduly affected Taiwan’s trade surplus. This trade surplus phenomenon forms the economic foundations of Taiwan, since it does not have to rely on foreign capital to accommodate its private and government investment. In addition, Taiwan’s strong reserves help to minimize the impact of any regional financial crises. Some of the important economic indicators are shown in Table 4.

   b. A development strategy combining growth with stability.

      Taiwan’s economic development model has been based upon a combination of high economic growth rates and the maintenance of price stability; one of the main reasons why Taiwan is included in the ranks of the “four little dragons” and praised for its economic ‘miracle’. Major advances in technology have encouraged corresponding increases in productivity and competitiveness; the resultant industrial upgrading and transformation of the industrial structure have been markedly successful, laying the foundations for Taiwan’s future economic development.
### Table 4 Economic Indicators for Taiwan 1981-1998

<table>
<thead>
<tr>
<th>Year</th>
<th>GDP Growth Rate (%)</th>
<th>Trade Surplus (US$ millions)</th>
<th>Foreign Reserves (US$ 100millions)</th>
<th>Exchange Rate</th>
<th>Stock Price Index</th>
<th>Excess Savings (NT$ Millions)</th>
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<tbody>
<tr>
<td>1981</td>
<td>6.2</td>
<td>1,412</td>
<td>-</td>
<td>37.84</td>
<td>548.84</td>
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<td>1982</td>
<td>3.6</td>
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<td>-</td>
<td>39.91</td>
<td>477.20</td>
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<td>1983</td>
<td>8.4</td>
<td>4,836</td>
<td>-</td>
<td>40.27</td>
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<td>1984</td>
<td>10.6</td>
<td>8,497</td>
<td>-</td>
<td>39.47</td>
<td>872.51</td>
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<td>5.0</td>
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<td>732.2</td>
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<td>209,909</td>
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<td>1993</td>
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<td>835.7</td>
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<td>181,035</td>
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<td>1994</td>
<td>6.5</td>
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<td>924.5</td>
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<td>6252.99</td>
<td>163,151</td>
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<td>6.0</td>
<td>8,109</td>
<td>903.1</td>
<td>27.27</td>
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<td>1996</td>
<td>5.7</td>
<td>13,572</td>
<td>880.4</td>
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<td>6003.72</td>
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<td>1997</td>
<td>6.8</td>
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<td>8410.56</td>
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<td>1998</td>
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<td>903.4</td>
<td>32.22</td>
<td>7713.97</td>
<td>166,941</td>
</tr>
</tbody>
</table>

Sources:
1. GDP Growth Rate, Trade Surplus, from: *Taiwan Statistical Data Book*, Council for Economic Planning and Development, R.O.C., 1999
2. Foreign Reserves, from: *Economic Statistic Indicators*, Department of Statistics, Ministry of Economic Affairs, August 1999
5. Excess Savings: the residue of savings minus investments, from
   (b) Council for Economics Planning and Development Republic of China, Taiwan Statistical Data Book.
c. The correct sequence for economic and financial reform.

Many economists have pointed out that during the process of economic reform, there is a correct sequence that must be followed when initiating economic liberalization. The main points for consideration are as indicated by Kuo (1990) and McKinnon (1992):

(1) **Priority of a sound financial and tax system over financial liberalization.**

Before initiating financial liberalization, a country must first strengthen its financial, budgetary and taxation structures, to prevent any imbalance in financial expenditure leading to an excessive supply of money, and thereby adversely affecting the desired attainment of currency stability.

(2) **Priority of a sound domestic financial system over opening up financial markets to international capital.**

Having a sound domestic financial system must take priority over proposed integration into the international finance system. Once a sound domestic financial system has been created it will assist in raising competitiveness and prevent exchange rates from falling with inflation.

(3) **Priority of liberalization of current accounts over capital account.**

Before capital accounts can be opened, efforts should first be made to eliminate both export and import trade barrier restrictions. The free movement of capital in and out of the country should be permitted only when interest rates for domestic loans have been liberalized, prices are stable, and exchange rates are not falling in concert with prices. If the liberalization of capital accounts is implemented too early, this may lead to unnecessary currency speculation and the accumulation of foreign debts.

Taiwan’s economic history demonstrates that it generally adhered to this sequence. In the 1960s and 1970s Taiwan maintained financial stability with a domestic financial system which was originally carefully controlled by the government. In the late 1980s, although moves towards internationalization remained slow, the pace of financial liberalization accelerated. And as far as current accounts were concerned, in the 1980s,
Taiwan began to lower tariffs, a move which had a significant effect on eliminating trade barriers.

Clearly, in its overall handling of the economy, Taiwan did not significantly violate any of the above precepts, however, Taiwan is currently running a budget deficit at a time when the internationalization of its financial markets is underway; this is a process that must not be ignored.

2. The Real Sector

a. Productivity.

Some commentators argue that economic growth in many Asian countries is attributed mainly to factor accumulation, rather than factor productivity. This argument is considered plausible in explaining the financial crisis, since Taiwan’s productivity is comparatively better than in most other Asian countries. In Collins and Bosworth’s (1996) examination of the Asian countries’ total factor productivity, Singapore had the highest item factor productivity for the ten-year period 1984 to 1994, whilst Taiwan’s was second highest, and these were the two countries which continued to perform comparatively well during the 1997/98 financial crisis. Taiwan also has a distinct advantage in terms of its technology and high caliber human resources. The 1997 rankings produced by the IMD institute in Lausanne, showed Taiwan with a clear advantage over Malaysia, Thailand, the Philippines and South Korea in terms of both technology and manpower quality.

A liberalized real sector is the cornerstone for creating industries that are able to withstand challenges both at home and abroad, and the legislation enacted in the 1950s and 1990s, covering privatization of Taiwan’s state-owned enterprises, was a key factor in the achievement of this aim.

b. Flexibility and adaptability to changing economic conditions.

Small and medium enterprises (SMEs) have played a significant role in the course of Taiwan’s economic development. They have proved themselves extremely capable and tenacious in adapting to change in both the domestic and international economic environment. This is in marked contrast to a country such as South Korea, where the industrial structure dominated by large corporations has proved incapable of such adaptability. The adaptability demonstrated by Taiwan’s SMEs goes a long way
towards explaining why the various industries weathered the crisis so well. Clearly the creation of a suitable environment for industrial investment and development is more effective than concentrating on providing support for a selected number of large conglomerates. Table 5 underlines the importance of SMEs to Taiwan’s economy.

3. The Financial Sector

a. Large foreign exchange reserves and limited foreign debt.

Taiwan has always maintained extensive foreign exchange reserves; with an average of around US$90 billion worth of reserves, it is well able to fend off any attacks from foreign exchange speculators. As of the end of 1997, Taiwan’s foreign exchange reserves stood at US$83.5 billion, whilst public external debt amounted to a mere US$108 million. Private external debt was also estimated to stand at only US$7.5 billion, far less than in those countries more seriously affected by the crisis.

b. A relatively sound financial system and lower level of bad loans.

Although Taiwan’s financial system is far from perfect, and the system of financial supervision in particular leaves much room for improvement, it has nevertheless become apparent that the steady pace of implementation of liberalization, and the careful control of bad loans, did allow the system to continue operating normally throughout the period of the crisis.

c. The relatively low proportion of foreign capital in the stock market.

Taiwan’s government has always placed controls on the amount of total stock exchange value accounted for by foreign investment. Currently, foreign investment makes up an extremely low percentage of total stock exchange value (3.68% in July 1998). However, with effect from 7th January 1998, the government set new regulations raising the ceiling ratio of individual overseas capital - over the total capital of each invested company - from 10% to 15%, whilst also raising the ceiling ratio of total overseas capital - over the total capital of each invested company - from 25% to 30%. 
Table 5  The Important Role of SMEs in Taiwan’s Economy

<table>
<thead>
<tr>
<th>Enterprise Scale</th>
<th>All Enterprises</th>
<th>SMEs</th>
<th>Large Enterprises</th>
</tr>
</thead>
<tbody>
<tr>
<td>% of all enterprises</td>
<td>1.01 1.02 1.04 1.07</td>
<td>0.99 1.00 1.02 1.05</td>
<td>0.02 0.02 0.02 0.02</td>
</tr>
<tr>
<td>No. of employees (Millions)</td>
<td>9.05 9.07 9.18 9.29</td>
<td>7.21 7.13 7.20 7.27</td>
<td>1.84 1.94 1.98 2.02</td>
</tr>
<tr>
<td>% of all enterprises</td>
<td>100.0 100.0 100.0 100.0</td>
<td>98.0 97.9 97.8 97.8</td>
<td>2.0 2.1 2.2 2.2</td>
</tr>
<tr>
<td>Sales Value (Millions)</td>
<td>19.02 19.60 21.38 22.75</td>
<td>6.84 6.72 6.86 6.91</td>
<td>12.18 12.88 14.52 15.84</td>
</tr>
<tr>
<td>% of all enterprises</td>
<td>100.0 100.0 100.0 100.0</td>
<td>36.0 34.3 32.1 30.4</td>
<td>64.0 65.7 67.9 69.6</td>
</tr>
<tr>
<td>Direct export sales (Millions)</td>
<td>-- -- 4.74 5.18</td>
<td>-- -- 1.25 1.23</td>
<td>-- -- 3.49 3.95</td>
</tr>
<tr>
<td>% of all enterprises</td>
<td>-- -- 100.0 100.0</td>
<td>-- -- 26.4 23.8</td>
<td>-- -- 73.6 76.2</td>
</tr>
<tr>
<td>Value added tax payment (Millions)</td>
<td>-- -- 11.71 11.55</td>
<td>-- -- 5.17 4.98</td>
<td>-- -- 6.54 6.57</td>
</tr>
<tr>
<td>% of all enterprises</td>
<td>-- -- 100.0 100.0</td>
<td>-- -- 44.1 43.1</td>
<td>-- -- 55.9 56.9</td>
</tr>
<tr>
<td>Loans at general banks (Millions)</td>
<td>8.86 9.38 10.98 11.72</td>
<td>3.19 3.20 3.45 3.45</td>
<td>5.68 6.17 7.53 8.27</td>
</tr>
<tr>
<td>% of all enterprises</td>
<td>100.0 100.0 100.0 100.0</td>
<td>36.0 34.2 31.4 29.5</td>
<td>64.0 65.8 68.6 70.5</td>
</tr>
</tbody>
</table>

Source:
Having a far lower level of foreign investment than those stock markets within the worst affected countries; Taiwan was thus spared the detrimental effects stemming from the rapid withdrawal of foreign capital.

d. The adoption of an orderly, gradual approach to the liberalization of capital movement.

Relaxing controls over the flow of foreign capital in an orderly, and gradual way, helped to reduce the adverse impacts of capital movement on exchange rates, the money supply, the stock market, and on overall financial stability. Changes to the legal controls on international capital outflow began on 9th October 1992, when the investment ceiling for individuals and companies was set at US$5 million. On 1st January 1994, the ceiling for companies was raised to US$10 million, with further increases to US$ 20 million on 1st January 1996, and US$50 million on 1st January 1997, clearly demonstrating a gradual and deliberate approach to the whole process of liberalizing capital movement in Taiwan.

e. The Central Bank’s flexible approach to dealing with the crisis.

As noted earlier, the Central Bank in Taiwan had tried to defend the NT$ exchange rate for around three months, but it had not insisted on the defense of an improper exchange rate. Eventually, once it became clear that defending the rate had become a seemingly impossible task, the market was then allowed to determine the appropriate exchange rate.

During the period of foreign exchange intervention, the Central Bank had allowed short-term interest rates to rise to a certain extent, but it had also plugged the gap in funding supply by way of open market operations and the lowering of required reserve ratios, so that market interest rates did not rise to such levels that would extensively disturb the real sector, the stock market, and other financial markets.

4. Social Factors

The Asian financial crisis came as a major shock to most of the countries involved, since many of them had no previous experience of fighting such crises. Taiwan, on the other hand, has experienced many such crises over a number of decades. Taiwan has an ongoing nervous and extremely sensitive political relationship with Mainland China which, on occasions, has led to political and military threats against the island. When
faced with being ousted from the United Nations, in 1971, Taiwan chose instead to withdraw. In December 1978, there was a subsequent shift in global relations as Taiwan’s diplomatic ties with the United States were severed, and a diplomatic relationship ensued, in January 1979, between the United States and Mainland China. As a direct consequence, most of the world’s leaders also severed diplomatic relations with Taiwan. In 1996, when the first presidential campaign was held in Taiwan, mainland China intensified its military threats against the island, and these threats continues even now. And of course, in the midst of this turbulent period, in the 1980s, Taiwan was also faced with the bursting of its bubble economy.

During these times when Taiwan faced such events, its residents naturally became insecure, indeed terrified, and these feelings resulted in an unstable and nervous atmosphere throughout the island affecting every area of social, political and economic activity. However, once the events were over, all of these activities quickly returned to normal, and the traumatic events left behind them a growing resilience amongst Taiwan’s citizens. In comparison to the many other challenges that the nation’s people had already faced in recent years, the Asian financial crisis did not seem to represent such a major threat, and there was a general belief that the crisis would pass sooner or later. The past experience of crises in Taiwan clearly helped to relieve the tensions that dogged many of the other Asian nations during the period of the latest financial crisis.

Taiwan had been affected by asset inflation during the second half of the 1980s, and as alluded to earlier, the economic bubble then burst. The money growth rate had reached as high as 51.42% (M1B) and 25.29% (M2) in 1986, but after several years of readjustment, domestic stock prices gradually stabilized (see Table 6). The real estate market has not yet fully recovered, but fortunately, price levels have maintained some stability. Having learned a number of lessons from the previous economic shock, domestic investors began to behave much more rationally when the stock prices rose, followed by a dramatic decline in 1997. If Taiwan had still been operating within a bubble economy in 1997; it would have suffered much more serious impact from the Asian financial crisis.
### Table 6 Prices and Money Supply

<table>
<thead>
<tr>
<th>Year</th>
<th>Rate of Increase in Prices (%)</th>
<th>Rate of Increase in Money Supply (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Wholesale Price Index</td>
<td>Consumer Price Index</td>
</tr>
<tr>
<td>1962-70*</td>
<td>1.86</td>
<td>2.92</td>
</tr>
<tr>
<td>1981-90*</td>
<td>-0.50</td>
<td>3.15</td>
</tr>
<tr>
<td>1981</td>
<td>7.63</td>
<td>16.33</td>
</tr>
<tr>
<td>1982</td>
<td>-0.19</td>
<td>2.96</td>
</tr>
<tr>
<td>1983</td>
<td>-1.17</td>
<td>1.36</td>
</tr>
<tr>
<td>1984</td>
<td>0.46</td>
<td>-0.02</td>
</tr>
<tr>
<td>1985</td>
<td>-2.59</td>
<td>-0.17</td>
</tr>
<tr>
<td>1986</td>
<td>-3.34</td>
<td>0.70</td>
</tr>
<tr>
<td>1987</td>
<td>-3.26</td>
<td>0.53</td>
</tr>
<tr>
<td>1988</td>
<td>-1.56</td>
<td>1.28</td>
</tr>
<tr>
<td>1989</td>
<td>-0.37</td>
<td>4.42</td>
</tr>
<tr>
<td>1990</td>
<td>-0.61</td>
<td>4.12</td>
</tr>
<tr>
<td>1991</td>
<td>0.16</td>
<td>3.63</td>
</tr>
<tr>
<td>1993</td>
<td>2.51</td>
<td>2.94</td>
</tr>
<tr>
<td>1994</td>
<td>2.17</td>
<td>4.09</td>
</tr>
<tr>
<td>1995</td>
<td>7.37</td>
<td>3.68</td>
</tr>
<tr>
<td>1996</td>
<td>-1.00</td>
<td>3.07</td>
</tr>
<tr>
<td>1997</td>
<td>-0.46</td>
<td>0.90</td>
</tr>
<tr>
<td>1998</td>
<td>0.61</td>
<td>1.68</td>
</tr>
</tbody>
</table>

Source:


Notes: All figures given in the table above are year-end. “a” indicates average value.
V. Lessons for Emerging Economies

The financial crisis caught the attention of the public, and some relevant issues, which have been widely discussed, are worthy of further analysis as follows:

1. The Role of Intervention by the Central Bank

The fundamental question of whether a Central Bank should intervene in exchange rates is one of the options available in the operation of a country’s foreign exchange system. Where intervention is taken to extremes, this represents a fixed exchange rate system; if the Central Bank does not intervene at all, this is a “pure floating exchange rate system.” Normally an “impure floating exchange rate system” is employed, i.e., a system in which there is partial Central Bank intervention.

Opinions as to whether a Central Bank should intervene are wide and varied. Friedman has always been a supporter of the floating exchange rate system, and is opposed to any government intervention. He does, however, suggest that if the government does insist on intervening, it should first evaluate the probability of success, and try to analyze the advantages and disadvantages of intervention (see Edison, 1993).

There are many positive and negative views of the effectiveness of Central Bank intervention and there is no real discernible consensus on this point. In reality, the underlying reason for doubts about Central Bank intervention is that they are not always seen as being capable of intervening effectively. Although governments worldwide tend to intervene in exchange rates, the effects of such intervention vary considerably. A great deal of research has been carried out in this area, some examples of which are provided below for reference. Edison (1993) points out that the results of research into the advantages and disadvantages of government intervention have varied enormously and much of the literature still contains arguments concerning this issue.

Taking the literature into consideration, we can see that there is considerable variation in the effectiveness of Central Bank intervention depending on the timing, the method and the environment within which the intervention is conducted. Although they may not always be able to influence exchange rates, the Central Banks of every country nevertheless
feel that they have a responsibility to stabilize the financial environment, and that they cannot just sit idly by whilst exchange rates are allowed to fluctuate violently. The problem lies not with the theory of intervention, but rather with the question of whether or not the most suitable methods are used.

2. The Optimal Point between Financial Stability and Financial Efficiency

The characteristics of the financial market are different from those of other commercial and service industries; the problem of market failure and the exogeneity phenomenon will be more important than in other kinds of markets. Stiglitz (1993) for example, proposes seven distinct types of market failure in financial markets. Financial stability is a goal that will always be pursued by governments, but since the market failure problem is a more serious problem than exists in other markets, the government usually adopts financial restrictions to maintain stability. Unfortunately, these measures may well sacrifice financial efficiency, therefore, many arguments deal with the direction of financial reform. Providing the most effective method of reaching the optimal point is not an easy task, and the means of achieving this elusive combination of financial efficiency, with stability, currently provides a topic for popular discussion.

3. The Speed of Financial Reform

Caprio, Atiyas and Hanson (1994) believe that the speed of financial reform should vary in accordance with the state of the economy. When the economy is healthy, the pace of reform can be accelerated, since it is easier for adjustments to be made to the financial structure, and financial reform is more likely to prove more effective. When the economy is in poor health, the pace of reform should be slowed down to avoid placing excessive pressure on the financial structure, which might well create an unstable financial environment.

Prior to the promotion of financial liberalization, the government should first try to predict what problems may be created and what reconstruction work may be required once liberalization has been implemented; the government should plan comprehensively, so that it does not end up frantically trying to close the floodgates once they have been opened.
Financial liberalization and internationalization are inevitable world trends and Taiwan makes no exception in pursuing these trends. The key issues at the heart of financial liberalization and internationalization are precisely when they should be undertaken, and the speed at which they should be implemented. Irrespective of how much financial liberalization has been undertaken, it is generally agreed that prudential regulation is necessary in any stage of financial development in order to maintain financial stability.

4. The Sequence of Reform

The general policy of financial liberalization cannot be abandoned, but care must be taken over the sequence in which reform is undertaken. Comprehensive planning is needed to produce the blueprint most suited to Taiwan. Overall, whilst the challenges currently faced by Taiwan are not as severe as those facing countries such as Thailand, the Philippines, Malaysia, Indonesia, and South Korea, this does not mean that Taiwan has no need for concern. In the aftermath of the financial crisis, we must watch our step, be sure we know in which direction we are moving, and carefully consider how best to direct future financial policy.

VI. Conclusions and Policy Implications

The reasons for the Asian financial crisis can be attributed to several factors. Macroeconomic factors include the soundness of economic fundamentals, the body of a bubble economy and reactive government policy. Real sector factors include trade deficits and over investment. Financial factors include the amount of foreign debt, the structure of corporate finance and loan quality, the openness of financial markets and the sequence of financial liberalization. The 1997/98 financial crisis in Asia did, to some extent, cause damage to Taiwan, however, it suffered comparatively less than other Southeast Asian countries, with the degree of fluctuation in the exchange rate and stock price index in Taiwan being much less than in many other countries, but Taiwan still has many policies which are in need of improvement in order to be able to face future challenges. The lessons from the experience of Taiwan during this period can be taken as a reference for emerging economies and the following
policy recommendations which are considered suitable for Taiwan, might also be referenced by other countries.

1. Economic Development Policy

   a. Giving priority to economic stability in determining policy objectives.

   The search for economic growth should have, as a precondition, the maintenance of a stable economic environment. Every effort should be made to maintain the stability of the financial markets, and of prices, in order to create a firm foundation for continued economic growth and investment.

   b. Balanced development of each sector of the macroeconomy.

   A loss of equilibrium between the various sectors of the macroeconomy can lead to crisis, and attention must therefore be paid to the growth and decline of the trade, financial and private investment sectors, so as to prevent the appearance of a long-term deficit and large foreign debts.

   c. The importance of implementing reform in the correct sequence.

   The most suitable process of economic reform cannot be ignored, nevertheless, attention has to be paid to the sequence in which economic reform is conducted. Thus, a long-term economic development strategy needs to be carefully developed in order to provide the blueprint most suited to conditions in Taiwan.

   d. Preventing the recurrence of a bubble economy.

   In order to avoid the re-emergence of a bubble economy, there is a need for careful coordination between currency and financial policy, and trade and investment policy. We should avoid the blind accumulation of debt and prevent the emergence of a situation in which too much money chases limited resources. It is also important to limit opportunities for stock market and real estate sector speculation.


   In light of the rapidly changing international economic and financial
situation, defensive measures need to be taken as soon as possible. The government should establish an early warning system for all financial and economic indicators, so that if any major change in the international environment does occur, which presents a potential threat to Taiwan’s economic and financial stability, such a warning would be received with sufficient time to enable the implementation of countermeasures.

2. Monetary and Financial Policy

   a. Enhancing the Central Bank’s ability to respond to environmental changes.

   The Central Bank needs to improve its ability to respond to environmental change. Given that financial liberalization and internationalization seem to be inexorable trends, and that new derivative products are constantly being introduced whilst financial innovation continues apace, the Central Bank needs to think in all-round terms. The Bank needs to improve both the accuracy and timeliness of its selection of policy objectives, use of policy tools, and subsequent judgments concerning the policy environment. If the Central Bank does consider it necessary to intervene in the foreign exchange market, such intervention should only be taken in consideration of the following four principles:

   (1) The central Bank should not violate exchange rate trends that reflect real trade sector activities

   (2) Before intervening, the Bank should first evaluate the likelihood of the intervention being successful, and whether it will actually succeed in overcoming market expectations.

   (3) Government intervention should be viewed as a short-term measure only; it should not be regarded as long-term policy.

   (4) The government needs to have a sound grasp of market information.

   b. Emphasis on combined financial liberalization, internationalization and discipline.

   The process of financial liberalization and internationalization should be combined with financial regulation. Those Asian countries that were worst affected by the crisis were generally characterized by weak financial structures; the quality of loans issued by their banking institutions was poor, and they suffered from high bad loan ratios. The areas where the
greatest emphasis needs to be placed in future, are the strengthening of the financial supervision system, the creation of a sound legal framework for the financial system, and the establishment of a financial “firewall.”

c. Creation of sound financial markets and improvements in corporate financial structure:

Companies should develop their own financial risk avoidance tools, speeding up the improvement of their domestic and international capital adjustment capability as a matter of urgency. The government needs to put all its efforts into the establishment of sound bill, stock, bond and forward exchange markets, and it should encourage private sector companies to develop sound financial structures and to increase their proportion of medium and long-term financing.

d. Control of accurate financial data, and effective use of the financial supervision system:

The government needs to have a thorough grasp of financial data in order to make efficient use of the financial supervision system and stabilize the currency environment. For example, the government needs to maintain accurate knowledge and data of companies’ foreign debt, confirm whether the method used to calculate bad loans is efficient, determine how best to use the financial early warning system, how best to promote risk management concepts and systems, and so on.

3. Trade Policy, Industrial Policy, and Investment Policy

The real economic sector covers industrial policy, foreign investment policy, budget policy, trade policy, and so on, all of which need to be carefully considered. Each economy has its own comparative advantage. Taking Taiwan as an example, its manufacturing sectors have followed a path of comparative advantage in their economic development. Prior to the 1970s, trade-emotion was an important policy and labor-intensive goods displayed comparative advantages for exports. After the 1980s, following upgrading in industry and in human resources, high-tech industries become more and more important. Continuous enhancements to competitiveness are crucial for the economy, and these features should be maintained and strengthened. The creation of a healthy environment for
industrial investment is vital in order to allow industry to display its full potential. And of course, sound fiscal policy is also important. The experience of the Latin American financial crises suggests that the government’s own budget deficit can be a major cause of crisis, and indicates that governments should work on the improvement of their finances, seeking to achieve a balance between government revenue and expenditure.

There are good and bad points in Taiwan’s recent economic development, but generally speaking, it has been very successful in fighting a number of different crises through the years. It can be seen that several factors contributed to Taiwan’s successful overcoming of the Southeast Asian financial crisis, and looking ahead to the future, the experience, which Taiwan has gained from this should be seen as an important reference for other emerging economies.

VI. Implications for Copenhagen Commitments

From the experiences of the Asian financial crisis, we recognize that the economic and social environment, and the relevant policies, should engender good integration in order not to induce a further financial crisis. In addition, social structures cannot be developed soundly without a sound economic developmental environment. The following recommendations are proposed in order to stimulate activities aimed at achieving the Copenhagen Ten Commitments from the experiences of the Asian financial crisis:

1. Appropriate Economic Policies - Crucial for Promoting Social Development

   In order to promote social development, we need a sound economic environment. Thus, the appropriate economic policies and a sound economic environment form the basis of normal social development.

2. The Establishment of a Social Safety Network

   The Asian Financial Crisis brought with it certain threats to both
wealth and safety. If a society possesses an endogenous social safety network and good social welfare measures, it will no doubt help reduce the impact of future potential financial crises. Such a social safety network can be enhanced through the efforts of both the government and the private sector.

3. Financial Reform Can Improve Social Structure and Income Distribution

One of the reasons for the Asian Financial Crisis was that illegal lending to related business groups had become extensive amongst some of the financial institutions. Under such conditions, loan quality worsens and non-performing loan ratios increase, and as a result, income distribution tends to be unequal. This inequitable social phenomenon can be improved through financial reform, such as the establishment of prudential financial regulations, and so on.

4. Enhancing Regional Financial and Social Cooperation.

Enhancing regional cooperation has been one of the major goals of the Copenhagen Ten Commitments. Following the Asian financial crisis, the idea of Asian Monetary Funds and Regional Financial Arrangements have been proposed, in order to integrate the financial sources of Asian economies as a means of preventing further financial crises. For example, the following measures may be considered for Asian economies:

a. Conferences on regional and international experiences of financial crisis.

The Taiwanese experience of successfully riding the wave of the financial crisis can be offered as a reference for other countries.

b. Planning of a regional financial early warning system.

International capital movement flows so quickly that some countries find it difficult to keep up with the pace of the flow. The exchange of information on international mass capital, as well as short-term capital flow, can help these countries to make earlier judgment. Mutual cooperation, in terms of policies, can also be discussed amongst the different countries.
References


Riding the Wave of the Asian Financial Crisis

Depression and Liberalization, Chapter 1, New York: Oxford.


