

# Lessons China Can Learn from the East Asian Financial Crisis: A Comparative Study of the Pre-Crisis East Asian and Modern-Day Chinese Economies

Author: Alexander J Chang

Persistent link: <http://hdl.handle.net/2345/584>

This work is posted on [eScholarship@BC](#),  
Boston College University Libraries.

---

Boston College Electronic Thesis or Dissertation, 2006

Copyright is held by the author, with all rights reserved, unless otherwise noted.

**Lessons China Can Learn from the East Asian Financial Crisis:**

*A Comparative Study of the Pre-Crisis East Asian and Modern-Day Chinese Economies*

Alexander J. Chang  
Advisor: Professor Zhijie Xiao  
Boston College  
Department of Economics

Submitted in partial fulfillment of the requirements for  
the degree of Bachelor of Arts in Economics.

Undergraduate Honors Program

Economics Honors Program

May 4, 2006

## **Lessons China Can Learn from the East Asian Financial Crisis:**

*A Comparative Study of the Pre-Crisis East Asian and Modern-Day Chinese Economies*

### **Abstract**

This paper attempts to deliver a side-by-side examination of the similarities and differences between the economies of East Asia (Singapore, Taiwan, Hong Kong, Korea Republic, Thailand, Malaysia, Indonesia, and the Philippines) and China. After the devastating 1997 Crisis, many investing eyes have turned to China as the next Asian growth engine. China has been opening its economy to foreign investors and its accession into the World Trade Organization will push for increased transparency and efficiency. The paper discusses the internal and external forces that drove the economies, with focused attention on its financial systems, using pre-crisis data. With foreign banks allowed entry into China by the end of 2006, its financial system will be an important component in economic longevity. Lastly, the question of whether or not China is vulnerable to a crisis is assessed based on the same factors that caused it in East Asia.

## Table of Contents

|   |    |
|---|----|
| <b>Introduction</b> .....                             | 4  |
| Brief History of the East Asian Financial Crisis..... | 5  |
| China, At First Glance.....                           | 6  |
| <br>  |    |
| <b>Factors of Growth</b>                              |    |
| Human Capital.....                                    | 9  |
| Employment by Sector.....                             | 11 |
| <br>  |    |
| <b>Government Involvement</b>                         |    |
| Private-public Sector Cooperation.....                | 12 |
| China's State-owned Enterprises.....                  | 15 |
| Institutional Quality.....                            | 16 |
| <br>  |    |
| <b>Research and Development</b> .....                 | 18 |
| <br>  |    |
| <b>Other Factors</b>                                  |    |
| Stock Market and Equity Prices.....                   | 20 |
| Current Account Imbalances.....                       | 21 |
| <br>  |    |
| <b>Banking System</b>                                 |    |
| Banking Deposit Insurance.....                        | 24 |
| Bank Lending.....                                     | 26 |
| Nonperforming Loans.....                              | 30 |
| <br>  |    |
| <b>Foreign Currency/Reserves</b>                      |    |
| The Speculative Currency Attack.....                  | 32 |
| The Importance of Foreign Reserves.....               | 34 |
| <br>  |    |
| <b>Conclusion</b> .....                               | 36 |
| <br>  |    |
| <b>Appendix</b> .....                                 | 38 |
| <br>  |    |
| <b>Bloomberg Graphs</b> .....                         | 48 |
| <br>  |    |
| <b>References</b> .....                               | 52 |

## Lessons China Can Learn from the East Asian Financial Crisis:

### *A Comparative Study of the Pre-Crisis East Asian and Modern-Day Chinese Economies*

*Some selective interventions contributed to growth, and it advances our understanding of the conditions required for interventions to succeed. It is argued that where selective interventions succeeded they did so because of three essential prerequisites. First, they addressed problems in the functioning of markets. Second, they took place within the context of good, fundamental policies. Third, their success depended on the ability of governments to establish and monitor appropriate economic-performance criteria related to the interventions – to create economic contests.*

- Lewis T. Preston  
The World Bank (President)  
August 1993

Preston's words ring quite lucidly when placed in the context of overseas markets: excellent examples of these are the Chinese economy and the economies of the East Asian Tiger<sup>1</sup> nations. The excerpt above refers specifically to the reforms needed to continue what has been dubbed the "East Asian Miracle." Recently, a statement by the Organization for Economic Co-operation and Development (OECD) had named three pre-conditions for sustained progress and growth in the Chinese economy: restore solvency to the financial system, bolster market based mechanisms as a dominant force for restructuring of the business sector, and establish public finances on a sound and sustainable basis (OECD, 2003). In simple terms, reform in the banking system and capital markets must take place, reforms in state-owned enterprises must create economically efficient contests, and accession into the WTO must force the economy to follow strict guidelines in regulation and reporting. The East Asian (EA) countries were considered an economic miracle: their high growth rates demanded acute attention. However, the Asian Financial Crisis of 1997 had led scholars to believe otherwise. It is

---

<sup>1</sup> \*In addition to the four Tiger economies (South Korea, Hong Kong, Taiwan and Singapore), I have also included Malaysia, Indonesia, Thailand and the Philippines, all of which demonstrated similar growth patterns in the 1980's and 1990's and lend significantly to this analysis.

undeniable that these economies pursued export-oriented growth; however, it may have been those same principles that caused the crisis to be so severe and crippling. The Asian Miracle was purported to be the “model” for other developing nations: the collapse of those same “miracle” economies suggest that it may not necessarily be replicated.

The purpose of this paper is to examine the similarities and differences between the East Asian economies and China prior to the financial crisis. The latter has also experienced high GDP growth rates over the span of two decades and the future of its economy will have a significant impact on not only the Asian markets but the global market.

Using the East Asian miracle as a simple model, it is my intention to clarify the similarities and differences of that said “miracle” to the current condition of the Chinese economy. Some of those similarities include the areas of human capital and education, while the main difference lies mainly in the respective types of government. A major factor in the collapse of the Tigers as a whole was the unseen weakness of the banking system and the lack of necessary reserves to save their currency from collapse. The question I propose to answer is: upon looking at the factors involved in affecting the crisis, is China on a similar path to crisis? If so, can it be avoided? If not, why and how is it safe from crisis? It is not the objective to predict the future of the country’s economy but to identify the subtle parallels and nuances and define how related the two may be.

### ***Brief History of the East Asian Financial Crisis***

While there are many factors that contributed to the Crisis, there are four key components that led to the 1997 Financial Crisis that should be identified as most

important in its viral spread throughout East Asia. First, there was a lack of adequate hedging involved when financial institutions and corporations had borrowed in foreign currencies. This made these countries vulnerable to sudden currency depreciation via speculative attacks. Many of the countries who were devastated by the crisis had inadequate amounts of foreign reserves and did not have the necessary capacity to buy back its currency during the downward pressures. Second, much of the debt was short-term debt while the assets were longer-term. This created the chance for an attack on liquidity, essentially the same effect as a run on the bank. Once an attack on a currency occurred, it made it difficult to pay off short-term debt because most of the debt was financed through foreign currency. Third, there was a spike in the countries' equity and real estate markets before the crisis, which increased the possibility of an unexpected deflation in asset prices. Lastly, credit was poorly distributed increasing the problems at banks and other financial institutions before the crisis (Lane, 1999).

### *China, At First Glance*

At first glance, China has a relatively large pool of foreign reserves due to the fact that they fixed the value of the renminbi (or Yuan) to the United States dollar. In fact, China owns over one-third of U.S. government securities. The fixed exchange rate system was beneficial to China as the U.S. was the destination for most of its exports. This has changed slightly in the July 2005 when China decided to use a basket of currencies that included the US dollar, the Japanese yen, the Euro, the Korean won, and other non-disclosed currencies (Cosgrove, 2005). It appears that China has sufficiently hedged its currency against any sudden devaluation and is prepared to hold firm to its

recent revaluation, which coincided in with the change to a basket of currencies. By doing so, it can be speculated that China is acknowledging its global exports, not just to the U.S., and also diversifying its reserves by including other currencies.

Second, there has been an increasing number of non-performing loans during the Chinese economic expansion. China has been facing a serious dilemma due to its highly inefficient state-owned enterprises. Rather than being financed through a government budget, it has relied on loans from the four state-owned banks (Goldstein and Institute for International Economics (U.S.), 1998). The Big Four banks are now laden with a large amount of non-performing loans that either is equivalent to or greater than the amount of the worst East Asian countries before the 1997 crisis (Ernst & Young, 2002).

Thirdly, it appears as though the Hong Kong, Taiwanese, and Chinese equity markets are on the rise, there has been an increase in the number of initial public offerings over the last decade, and real estate markets have also been increasing. This follows a similar pattern in which the Tigers' assets began to appreciate before the crash. China's Class A shares, listed in Shanghai and Shenzhen and denominated in Yuan, have risen almost 30% between June 2005 and February 2006 (Browne, 2006). Currently, however, a significant worry over the Chinese stock market is that foreign investment has been the main cause in the surge in growth rather than domestic investment being the major driver. This follows a familiar pattern where foreigners signal to buy when domestic confidence is at its bottom. In fact, securities analysts say that foreign buying cannot and will not sustain the Chinese stock market rally.



Also in China, there has been a rapid increase in listed companies from 1991 to 2002<sup>2</sup>. Hong Kong, now a part of China, historically has a similar positive trend, along with the other East Asian countries such as the Korea Republic and Malaysia. Japan is used as a reference, in order to compare the examined countries to a larger, more developed economy. In 1991, China had only fourteen listed companies, and this amount has increased tremendously to 1,235 listed domestic companies. Despite the growth in listed companies in Hong Kong, China, as of 2002, has more listed companies than Hong Kong.

|           | <u>1991</u> | <u>1992</u> | <u>1993</u> | <u>1994</u> | <u>1995</u> | <u>1996</u> | <u>1997</u> | <u>1998</u> | <u>1999</u> | <u>2000</u> | <u>2001</u> | <u>2002</u> |
|-----------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| CHINA     | 14          | 52          | 183         | 291         | 323         | 540         | 743         | 853         | 950         | 1,086       | 1,154       | 1,235       |
| HONG KONG | 333         | 386         | 450         | 529         | 518         | 561         | 671         | 693         | 717         | 779         | 857         | 968         |
| JAPAN     | 2,107       | 2,118       | 2,155       | 2,205       | 2,263       | 2,334       | 2,387       | 2,416       | 2,470       | 2,561       | 2,471       | 3,058       |
| KOREA     | 686         | 688         | 693         | 699         | 721         | 760         | 776         | 748         | 1,178       | 1,308       | 1,390       | 1,518       |
| MALAYSIA  | 321         | 369         | 410         | 478         | 529         | 621         | 708         | 736         | 757         | 795         | 804         | 865         |

Source: World Bank, *World Development Indicators*

The real estate market in China has also been an attractive investment as several United States investment banks have made efforts to take hold of the new market. Sonny Kalsi, global head of real estate business at Morgan Stanley, plans to invest three times more into the Chinese property, while pulling away from Japan, an amount of \$3 billion (Chu and Yasu, 2006). Morgan Stanley hopes that the economic expansion will lead to property price appreciation as well. Property values in Shanghai have tripled in the last six years, while Japanese prices have just begun to rise for the first time since the early 1990's. Goldman Sachs Strategic Investments (Asia) LLC, a subsidiary of Goldman

<sup>2</sup> See Table 1. Listed Domestic Companies, Total.

Sachs Group, has invested \$22 million in Century21 China Real Estate, one of the world's most recognized real estate brands in mainland China ("Century21 China Real Estate Joins Hands with Goldman Sachs," 2006).

Finally, it is well documented that credit has been inadequately allocated, which has affected the increasing number of non-performing loans in China. The reforms in the state-owned enterprise sector and other government-run enterprises have caused some issues in resolving the debt issue and the misallocation of resources to failing firms. If all of these four factors have a similar effect on the Chinese economy as it did in the East Asian countries, one may feel a bit more cautious and less optimistic about the future of the behemoth country and investing there.

### *Human Capital*

Efficient resource utilization has played a major role in the growth of the East Asian economies. Human capital or labor was an especially strong contributor to the "miracle growth." But although human capital accumulation may be a necessary condition for sustained rapid growth of output and wages, it is not a sufficient condition (World Bank, 1993). Therefore, human capital by itself cannot explain the growth.

It seems as though the countries who have invested in its education system have also had high economic growth rates associated with them. Public spending on education as a percentage of GDP shows how much investment each country adds to its education system. Economic historians including Crafts (1999) and Abramovitz (1986) argue that the standard of education is an important component in explaining the differences in the experience of catch-up growth. Japan, Korea Republic, Hong Kong, Malaysia, Thailand

and Singapore have very high rates compared to China and Sri Lanka<sup>3</sup>. Malaysia and Japan have spent 6.14 percent and 3.56 percent of its GDP, respectively, on educating its citizens. This is over 1.5 percentage points higher than that of China. Korea, who is noted for its investment in education, spent 3.81 percent of its GDP. Hong Kong and Thailand double the amount of spending on education than China. It is interesting to see that the East Asian countries in this study have all invested significantly more in its education than China.

**Table 2. Public Spending on Education (as a % of GDP)**

| <b>Country</b>            | <b>1998</b> | <b>1999</b> | <b>2000</b> | <b>2001</b> | <b>Average</b> |
|---------------------------|-------------|-------------|-------------|-------------|----------------|
| China                     | 2.00        | 2.08        | --          | --          | 2.04           |
| Hong Kong                 | --          | --          | 3.99        | 4.11        | 4.05           |
| Korea                     | 3.74        | 3.76        | 3.44        | 4.31        | 3.81           |
| Sri Lanka                 | 3.05        | --          | --          | --          | 3.05           |
| Malaysia                  | 4.78        | 5.69        | 6.20        | 7.89        | 6.14           |
| Thailand                  | 5.00        | 5.74        | 5.23        | --          | 5.32           |
| Japan                     | 3.52        | 3.60        | 3.56        | --          | 3.56           |
| Least Developed Countries | 2.53        | 2.49        | 3.13        | --          | 2.72           |

-- denotes no available data for particular year  
Source: World Bank, *World Development Indicators*

The above table suggests that education and training played an integral role in the success of the East Asian economies (Green et al., 1999). It is also clear that education has a positive effect on growth; however, it may have had a greater effect on social capability rather than directly affecting total factor productivity (Crafts, 1999). China's current growth cannot be explained by its educational spending like the other EA economies. This suggests that Chinese education may not play a role in growth. Even the least developed countries, as classified by the United Nations, have spent more money

<sup>3</sup> See Table 2. Public Spending on Education

(2.72 percent of GDP) than China. Therefore, there must be other factors in place that explain the situation in China.

This unique trend can be observed because in some cases, schooling and training are not necessary for certain types of jobs. For example, in an agricultural based economy, there is little need for a well-educated labor force. In a service-based economy, it is imperative for a labor force to have secondary and tertiary levels of education. If this is true, China's employment breakdown by sector may provide some evidence on why China spends little on education.

### ***Employment by Sector***

One of China's markedly problematic areas is that employment in its agricultural sector is much larger than the East Asian countries. Over the past twenty years, China has decreased its employment in agriculture by over 20 percent<sup>4</sup>, a positive trend for long term growth. This has also been the case for the East Asian countries, just not as drastic as China's situation. However, China still lags far behind in the share of employment in services with only 27 percent. Korea, Singapore, and Japan have less than ten percent of its labor force in agriculture. This may explain why they are spending a larger percent of GDP on education compared to China and why China spends only an average of 2.04 percent. As noted earlier, education is imperative for the workforce employed in industry and services. As education spending increases, there is less incentive to increase agricultural needs because there is less need of education in agriculture.

Agriculture and food production play a significant role in all large-scale economies. A country the size of China must be able to feed its people first. Perhaps this

---

<sup>4</sup> See Table 3a. Employment by Sector (Appendix – page 38).

is the reason why Korea, Singapore, and Japan show a decrease in arable land over the last twenty years, while China is shown to have increased its arable land percentage<sup>5</sup>. Education spending levels may still be low because the Chinese population still needs those workers in agriculture, especially with over one billion people in the population. One would rather have enough food to eat than a new consumer product.

China's agriculture is characterized by scarce land in relation to labor and is notorious for small-scale production using little or no mechanization. In Japan and Korea, output per land is high while output per worker is low, meaning machinery and agricultural techniques have maximized production (Pigott and Organization for Economic Co-operation and Development, 2002). In order for improvement in productivity to occur, it is necessary that there is considerable reallocation of resources away from land-intensive products toward labor-intensive products. This may pose a threat to improving productivity, however. If China is increasing its arable land area, then less investment can go into the labor-intensive products, which can help its comparative advantage. By doing so, China will be able to trade for any necessary agricultural products, similar to the system Japan utilizes today.

### ***Private-Public Sector Cooperation***

Cooperation between the private and public sector was a crucial factor in facilitating communication and progress in the EA countries. These are, in effect, an institutionalized form of wealth sharing aimed primarily at winning the support and cooperation of business elites (World Bank, 1993).

---

<sup>5</sup> See Table 3d. Arable Land (Appendix – page 39).

From the mid-60's until the early 80's, Korean businesses and the Korean government worked closely and cooperatively with each other. The president of Korea would preside over discussions between government economic ministers and country's top business leaders. It was a forum where businessmen shared their views on the markets and future outlook. The president then delegated a minister to a specific issue and by the next meeting; a progress report was delivered and logged. In Malaysia, in 1991 under Prime Minister Mahathir Bin Mohamad's "Look East Policy," formal meetings between the government and industry leaders began. They gathered to discuss the national budget with finance officials. Mahathir also created the Malaysian Business Council which included sixty members from industry, labor, and the government. In 1983, Thailand's government established the National Joint Public and Private Consultative Committee (NJPPCC). The committee consisted of the prime minister as chairman, top government officials, and nine private sector representatives from the Thai Chamber of Commerce, the Association of Thai Industries, and the Thai Bankers Association.

Like the others, Singapore has a similar mechanism in place. However, its system is more pronounced than its neighbors. The National Wages Council, which include representatives from government, business, and labor cover several coordination functions, including business-labor cooperation. An example of this public-private consultation is that private citizens serve as directors of government statutory boards and as members of ad hoc government committees.

Taiwan and Indonesia do not have formal mechanisms for public-private coordination. In Taiwan, the reason is because the governing party tends to have large, sensitive investments and a means to influence the generally smaller firms that make up

the private sector. Like Taiwan, Hong Kong uses a more *laissez faire* approach to its economy (Crafts, 1999). Indonesia lacks this mechanism due to its weakness in bureaucracy. Coordination is handled by informal networks instead, which link senior officials with large businesses.

These mechanisms assist in facilitating information transmission. The government can assess information about the world markets, innovative trends, impact of regulations, while communicating back to the private sector. The key is credibility, because the private sector participants will believe cheating is less likely if backed by government (World Bank, 1993). With established rules made with the participation of businesses, members can focus on market competition. Industry profits will be determined by competition and not rent-seeking.

Taiwan and Hong Kong, both countries that used a more *laissez faire* mechanism rather than the public-private consultations, basically came out of the Asian Financial Crisis unscathed. By letting the economics of business take its course, the hands-off approach may have helped the two countries adjust more quickly than the others. Korea and Thailand, who were heavily involved in its private sector, were devastated by the 1997 Crisis, perhaps because they were less willing to adjust to changing market conditions. Singapore's story is more difficult to explain as its government was also in close relations with its business firms. This may lead to another factor pointing at the quality of institutions and governments discussed further along.

### *China's Business Integration: State-owned Enterprises*

Like the East Asian countries, China is also involved in its private sector. However, unlike the former, instead of having deliberations between the government and industry leaders, China owns those businesses. This is a major difference in that China has full control over what happens in its private sector.

However, these state-owned enterprises (SOEs) have had an immense positive effect on economic growth earlier on. The first reform involved the household responsibility system, where land was assigned to a household according to the number of members and workers. The next reform was that of the state-owned enterprises which took place in three phases. First, from 1978-1984, the focus was to grant SOEs more autonomy in exchange for higher efficiency (Lin et al., 1996). Macmillan and Naughton (1992) state, "China's state-owned are notoriously inefficient; press reports commonly describe them as 'dinosaurs' or 'terminally ill'." (Macmillan and Naughton, 1992) By sharing power and profit between government and the SOEs, its aim was to see managers and workers put in extra effort in production and make more efficient uses of resources, thereby increasing social welfare and individual income at the same time. The second phase's goals were to simplify administrative control, decentralize authority, reform taxation, and introduce management-responsibility systems. This came in response to emerging non-state enterprises (or township and village enterprises), who achieved a higher degree of efficiency and could afford to buy resources at higher prices. As a result of the entry of these new firms and state firms were selling on free markets, SOEs now encounter product-market competition in a socialist economy. The last phase was the implementation of the management-responsibility system, which included the contract



system and experiments on a shareholding system (Lin et al., 1996). Now, this semi-market-based competition has given SOEs an incentive to improve its productivity.

By owning its enterprises, China chose to have a more hands-on approach in its private sector. The pros and cons of this angle demands examination. The pro is that the government can assign managers to these businesses, which will follow the growth plans it wishes to take as a country. The assigned managers may have only one objective in mind, which could be to follow the exact orders of the government. The con is that these managers may not be experienced or well-educated individuals capable of running a business. Following government orders may not be the most efficient way of handling a business.

In fact, major weaknesses in the Chinese industry are inadequate technology and limited capacity to innovate (Organization for Economic Co-operation and Development, 2003). These inefficiencies are closely tied to factors at the firm level. The poorly skilled and insufficiently profit-motivated management has neglected a push in technology. Government involvement has led to poor SOE management and inefficient operations, which cultivate lower profits and higher debt. It resulted in making the restructuring process more difficult and forces the government to appropriate resources from stronger enterprises to aid those which are failing. The problem with SOEs is so grave that it has also constrained the financial system (to be discussed later).

### ***Institutional Quality***

Institutional quality is one measurement of government performance. The World Bank's institutional quality index is ranked from 1 to 100, the larger value being the

better performer. It is no argument that a well-run economy also has a well-run government. Table 4<sup>6</sup> ranks the institutional quality of the East Asian countries and also adds Argentina and Japan as controls, a country who has struggled throughout the years to entertain economic growth on a prolonged basis and a country who has one of the largest economies in the world. Argentina, over the last two decades has placed last (eighth) out of eight. Japan, on the other hand, has averaged the highest score<sup>7</sup>, 1.2, signifying that since 1985, it has managed to have the highest institutional quality among the eight countries in the table. Singapore ranks second with an average score of 2.2. Hong Kong ranks third with a 3.6 score. Korea and Malaysia are tied for fourth with an average score of 4. Thailand scored a 6 placing it in sixth. Lastly China scored a 6.4, a seventh overall ranking.

According to Dekle and Kletzer (2001), this result closely coincides with the fact that Korea and Thailand experienced crisis, Malaysia experienced a near-crisis, and Singapore and Hong Kong essentially escaped from the crisis unscathed, compared to the other East Asian countries inflicted, that is. Singapore and Hong Kong rank highest, then comes Malaysia and Korea, with Thailand in last. China's low ranking cannot be a good indicator of government performance.

As mentioned earlier, the Tigers' social capability was a key factor in increasing growth. However, Crafts (1999) and Abramovitz (1986) argue that social capability must include the role of institutions and incentive structures, not just education, which has already been suggested. This involves rent-seeking, the political process, and the ability of vested interests to prevent modernization. Also, a central component to investment is

---

<sup>6</sup> Table 4 Institutional Quality Rankings (Appendix – page 40).

<sup>7</sup> Ranked second only in 2002.

the appropriation of profits. Essentially, this means that political and institutional structures must permit a strongly restrained, predictable government. Governments must protect property rights and enforce contracts while removing itself from expropriation and capricious behavior.

### ***Research and Development***

It has been found that research and development (R&D) was not in the interest of the East Asian countries (Vines, 2000). During the Asian miracle, when foreign funds were pouring into the region and no shortage of capital to spend, expenditures on R&D either remained relatively low by international standards; some even showed some decline. Why should one bother to invest capital in R&D, promising long-term returns, when fortunes could be made overnight in the stock markets or in the property markets?

Malaysia and Hong Kong's R&D expenditures have remained relatively low. This is low for Hong Kong seeing that it prides itself on running a technologically advanced economy. In 1997, they spent a mere 0.27 percent of GDP on R&D and only raised it to 0.44 percent the following year. In Singapore, where the government gives extensive incentives for R&D activity, the data is still unimpressive. By 2005, the national target is only 2 percent of GDP (Lo, 1999). These figures are no where near those of the U.S. or Japan, its Asian competitor.

The global leader in R&D is Sweden, who devotes around 3 percent of GDP to the cause. Japan has bettered Sweden at times and spent 3.09 percent of GDP on research. South Korea, the other Asian leader in R&D, spent 2.80 percent on R&D expenditures<sup>8</sup>. It turns out that Japan and Korea Republic are the only two Asian countries with well-

---

<sup>8</sup> See Table 9. Research and Development (Appendix – page 44).

recognized global brand-label companies. Examples of such companies include Sony, Panasonic, and Toyota in Japan and Samsung, LG, and Hyundai in Korea. Also, Japanese companies have taken its R&D departments overseas where they can tap into sources and expertise not available in its own country.

China shows a gradual increase in its R&D expenditures spending 0.60 percent in 1996 and 1.09 percent in 2001. Research and development is necessary in that it can help determine long-term growth for the economy. In developing countries, once the “catch-up growth” has fully taken place, it is imperative for a developing country to be able to sustain its own growth via new innovation and technology, especially in the industrial and services sectors. China still has an “advantage of backwardness” or “economic backwardness,” however. Because independent R&D by self-investment is extremely costly with little success, China has learned innovation through imitating or purchasing advanced technologies from other well-developed countries. Since purchasing patents for new innovation is only one-third the price for R&D on these developments, it is cheaper and also provides a proven track-record of success. Therefore, it is important for China to develop products that they can export, by perhaps selling these same products for cheaper. By doing so, it must exploit its price comparative advantage. However, “there is likely to be a downside in terms of weaknesses in productivity performance,” according Crafts (David, Thomas and British Academy, 2003). This occurs if the workers cannot use new technology to its fullest potential. Research and development is needed to have products that will be attractive to the consumer and also provides an avenue for upcoming entrepreneurs to invent new technologies that can better society.

Just recently in the news, “a Chinese company’s plan to acquire IBM’s (International Business Machines) personal computer division is just one example of current Chinese efforts to buy or build recognizable brand names in the United States.” Lenovo’s purchase of IBM’s personal computer division will be “a sign of things to come” according to Dr. Oded Shenkar at Ohio State University. As mentioned above, Chinese companies have been buying what it cannot produce, like Japan and Korea did during its growth period. Lenovo has no experience in overseas acquisitions, which is why the company has planned to keep IBM managers acting as mentors to the Chinese. By keeping Western management, Chinese companies like Lenovo can focus on growth rather than attempting to start-up its own PC division, which can be costly, inefficient, and uncompetitive. One can only begin to wonder how many more Chinese companies may go out and buy other cross-border firms (Holstein, 2005).

### ***Stock Market and Equity Prices***

As noted earlier, the East Asian countries saw an appreciation in equity prices prior to the Crisis of 1997<sup>9</sup>. Some economists suggest that a bubble was formed in which a crash in the Asian stock markets was inevitable. When looking at the historical moving averages of the Stock Exchange of Thailand Index, Korea’s Kospi Index, Hong Kong’s Hang Seng Index, Indonesia’s Jakarta Composite Index, Singapore’s Straight Index, and the Philippines Composite Index, there is a sharp drop occurring in the year 1997. Before that, there was a steady increase in the value of indexes from 1992 to 1996. Although some countries show less of a decline than others, it is indicative that the East Asian stock indexes experienced first inflation then a deflation in asset prices.

---

<sup>9</sup> See Bloomberg graphs of Moving Average from January 1992-December 2005 (page 48).

China's Shenzhen and Shanghai indexes, on the other hand, saw just a fractional deflation in equity prices during that same time period. In fact, China withstood the crisis and began to appreciate until June 2001. If one was to look at only the moving average graphs for China's stock markets, one might have never have seen the correlation between East Asia and China. However, the stock market of Shenzhen has yet to reach the six-year high price set in June 2001. In fact, the Shenzhen composite index is at a level equivalent to the level of early 1996. Although the market has not recovered fully, this might be good news for China. Despite the long six-year price fall, the economy is still growing at a monstrous pace. Even if equity prices fall further, it seems as though it will not further affect the growth of the economy. The worst may already be over.

### ***Current Account Imbalances***

For most of the 1990s, many of the East Asian countries were experiencing a current account deficit. In fact, every country but Singapore was in deficit<sup>10</sup>. It was not until after the Asian Financial Crisis of 97 in 1998 that the countries finally turned deficit into surplus as a percentage of GDP. Only until recently, many believed that these current account imbalances were benign and would not affect the external-sector of these countries (Goldstein and Institute for International Economics (U.S.), 1998). In fact, it was considered that these kinds of deficit were good for two reasons: one, they did not reflect a saving-investment deficit in the public sector and two, foreign borrowing was being used mainly to increase investment, which would result in building the capacity to service the debts that it created. Compared to the Latin American current account balances, the Asian deficits were thought to be more sustainable.

---

<sup>10</sup> See Table 8. Current Account Balance (Appendix – page 43)

There are three major ways that a growing current account deficit can hurt a country in the long run (Rakshit, 2002). First, if foreign borrowing is used to finance domestic consumption rather than investment, the country will eventually face difficulties servicing the debt. As in China, its recent rally in June 2005 was essentially due to the renewed interest by foreign firms (Browne, 2006). Although the rally may not be sustained due to a lack of domestic interest in the stock market, foreign investors are increasingly hopeful to get more opportunities from the government in order to obtain more Class A shares, which are currently limited to foreigners. As of now, outsiders must buy separate foreign-currency denominated Class B shares that are priced independently of Class A shares (Lardy, 1999). Even if foreigners' tastes turn sour on the value of B shares, it will have no negative consequences on the value of the Yuan because potential sellers cannot exit the market unless they have found a foreign buyer who will pay dollars for the shares. China's future looks healthy as these external funds are not funding domestic consumption, and rather investment.

Second, even if all the external borrowing was added to domestic capital formation, then widespread inefficiency in the use of the external funds may make the returns too low to repay foreign creditors. If the managers are unable to manage the money efficiently, it will only cause further debt. Third, productivity of investment in physical terms is not what is relevant; instead an addition to foreign exchange *earnings* in relation to the requirement of servicing external debt is needed. A borrowing country must be able to convert the additional capacity and convert it into extra earnings in terms of foreign currency.

It is vital for a country to be able to service its foreign debt in order for its economy to thrive. This ability increases foreign investor confidence in the banking system and thus increases foreign investment. However, if a borrowing country is unable to service its debt, speculators may have a field day in selling short its currencies, while selling off its assets. Figure 5a and 5b show Thailand and Indonesia a large external debt to GDP ratio. China's external debt to GDP ratio is very low at under 0.20. Mexico, who experienced a currency crisis in 1994, shows that its foreign debt was over twenty times the amount of foreign reserves it had in stock. China, compared to the other East Asian countries, have plenty of reserves to service its foreign debt<sup>11</sup>.

Singapore, who escaped the crisis bruised but not crushed, shows a strong surplus in Table 8<sup>12</sup>. If the current account deficit in these countries caused concerns leading up to the crisis, it may be good news for China's economic future. Over the last decade, it has been able to maintain a surplus. Like Singapore, it appears that China will have no apparent concerns regarding its current account balance and the data suggests none in the future as well.

In fact, it may be because of China that the other EA countries experienced those deficits. Certain economists show a shift in regional comparative advantage toward China and away from the East Asian economies. Thurow (1998) argues that the EA deficit from surplus is directly traceable to China's decision to focus on increasing exports as its engine of growth. In addition, Kwan (1997) states that the share of Japanese FDI going to China was strongly on the rise between 1992 and 1995-96, whereas the share entering the EA countries were constant. He also notes that the product compositions of exports are

---

<sup>11</sup> Figure 5a & 5b. External Debt (Appendix – page 41).

<sup>12</sup> Table 8. Current Account Balance (Appendix – page 43).



“similar” to Chinese exports and thus are disadvantageous to the East Asian countries, specifically Taiwan, South Korea, and Singapore.

### ***Banking Deposit Insurance: In Korea and Singapore***

Bank deposits were implicitly guaranteed by the government, given that no domestic bank had ever closed, as the government would take over any failing banks or forced the bank to merge with another (Dekle and Kletzer, 2001). Even foreign loans to the domestic banking sector were implicitly guaranteed because of this system. However, instead of exercising restraint, local banks re-lent monies borrowed from abroad to speculative investments in real estate or to protected and noncompetitive enterprises (Jackson, 1999).

In Korea, although banks were privatized in the early 1980s and financial markets were deregulated, the governments had control since it appointed bank management and used a system of government policy loans. Because the Korean government was so heavily involved in lending, banks were unable to develop skills in credit analysis. The government was basically implicitly guaranteeing any loans, given the fact that it was in charge of lending the money itself. This indirectly led its way to increasing the number of dreaded non-performing loans. In addition to government intervention, the sheer economic power of the few large conglomerates, such as Samsung, LG, Daewoo, led to inefficiencies (Borensztein and Lee, 1999). These *chaebols* dominated credit allocation and basically ignored the need for project evaluation and monitoring by banks. The story is that these *chaebols* were traditionally considered to be “too big to fail,” thus financial

institutions believed that the government would protect them from failure, implying again a guaranteed loan.

In Singapore, where the crisis did not hurt as much, it also had no official deposit insurance system. However, government regulations have prevented domestic corporations from borrowing offshore in domestic currency. Due to its large saving and low interest rate levels, foreign currency borrowing was minimal and not guaranteed by the government implicitly or explicitly. The large savings allowed banks to keep a close watch on bad loans and also kept companies from over-borrowing. Unlike Korea, the Singaporean government did not imply any guaranteed loans lent by its corporations.

### ***Chinese Banking Deposit Insurance***

China has four major banks, also known as the Big Four – Bank of China, China Construction Bank, Industrial and Commercial Bank of China, and Agricultural Bank of China. Similar to Korea, it is also implied that the government has guaranteed loans from these banks, as these are state-owned banks. In January 2004, the Chinese cabinet completed a US\$45 billion injection into the Bank of China and the China Construction Bank out of its foreign exchange reserve (“China's Government Began a Long-awaited...,” 2004). It hoped to allow the state-owned banks to lessen the current and potential financial risks. By doing so, the government wants to keep healthy balance sheets that would normally be laden in bad loans.

These state-owned commercial banks, although set for initial public offerings and controlled by some major foreign investment banks<sup>13</sup>, are still majority owned by the

---

<sup>13</sup> Bank of America owns a 9 percent stake in the China Construction Bank and Goldman Sachs owns a 10 percent stake in the Bank of China

government (Linebaugh, 2006). Foreign companies can own a maximum of 25 percent stake. This will give an implicit guarantee on its loans. This implicit deposit guarantee is important to the confidence in the banking system for macroeconomic and social stability. It becomes clear that the main challenges for the banks are to improve their commercial position and strengthen their financial position (Prasad, 2004).

### ***East Asian Bank Lending***

Dekle and Kletzer (2001) argue that reliance on bank borrowing can lead to a crisis if done in excess, thereby causing financial instability with the domestic banking system. In the East Asian countries, corporations in Korea depended heavily on domestic bank borrowing; Thai companies were also reliant on bank borrowing but included domestic and foreign debt, while Malaysian, Taiwanese, and Singaporean firms were not reliant on bank borrowing relative to the others. The latter actively tapped bond and equity markets to raise capital for its investment projects.

Korean corporations' reliance on domestic, commercial, and merchant bank financing was large and increasing prior to the 1997 Crisis. In 1997, domestic borrowing was close to 50 percent of total corporate financing. Equity financing was limited and accounted for only 7 percent of total corporate financing, down from 20 percent in the early 1990s. Consequently, the debt-equity ratios was over 300 percent for manufacturing firms, and most of this debt was explicitly or implicitly owed to domestic banks (Pomerleano, 1998). The Korean government saw the financial sector as the ideal instrument for pursuing its industrial policy. The government allocated credit and preferential lending rates. This allowed for heavy subsidies for the firms who had access

to bank credit. The beneficiaries of the selective credit allocations were the *chaebol* groups, who were not wise with their major investment decisions (Borensztein and Lee, 1999).

Thailand's reliance on bank financing was among the highest of the afflicted East Asian countries. Between 1992 and 1996, borrowing from banks accounted for 74 percent of total corporate financing and the average debt-equity ratio was 180 percent (Pomerleano, 1998). A large percentage of the borrowing was from foreign banks, mostly Japanese. Much of the foreign borrowing was through the Bangkok International Banking Facility (BIBF), who used an "out-in" approach, where lending was entirely foreign currency denominated. This would normally cause problems in a pre-crisis situation because if the country does not have enough foreign reserves to cover the foreign debt, it can cause downward pressure on the domestic currency.

By 1996, Taiwanese reliance on bank borrowing was less than 22 percent of total corporate financing (Dekle and Kletzer, 2001). Large corporations raised most of its funds through the equity market and thus developed a successful venture capital industry and IPO market. In 1997, small and medium-sized firms raised \$2 billion and \$27 billion from venture capital and IPOs, respectively (Chu and Yasu, 1999). By the same time, the debt-equity ratio was 85 percent, lower than even the debt-equity ratios in many industrialized countries.

Singapore raised 40 percent from banks between 1992 and 1996. 80 percent of those loans were from four domestic banks. The remaining 20 percent were from smaller banks, foreign banks, and finance companies (Pomerleano, 1998). Fortunately, Singapore regulations have kept domestic currency and foreign currency separate despite having a

large offshore market. Singapore corporations have also relied on bond and equity financing, which have kept the debt-equity ratio below 90 percent.

### ***Chinese Bank Lending***

China's bank-dominated financial systems can pose a problem for the country in the near future. Lardy (1999) argues that first, an under-developed capital market creates a potential for systematic under-pricing of loans by banks. This poses a threat to the banking system because it contributes to the excessive growth of credit. In a bank-dominated financial system, capital markets do not provide sufficient competition for banks, lowering the efficiency of financial intermediation. Also, it is easier for corruption to influence the pattern of bank lending when politicians can determine which borrowers receive funds. Table 11 shows the increase of domestic credit for China and the East Asian countries<sup>14</sup>. China has had the most drastic increase over the ten year period, 1994 to 2003, while some countries like Indonesia have shown a decrease in domestic credit.

It is believed that credit expansion in China has been excessive based on several criteria. First, excessive bank credit is shown by a deterioration in the balance sheets of state-owned enterprises (SOEs). Since the 1978 reforms began, the SOEs had only moderate liabilities to banks as most of the fixed investment was financed through the government budget and these firms had no obligation to repay the grants. Early on in the reform period, the debt-equity ratio was only 12 percent, a fraction compared to the crisis-afflicted EA countries. That number has severely increased to 375 percent by the end of 1994, due to an increase in bank borrowing. By year-end 1995, SOEs, including

---

<sup>14</sup> Table 11 and Figure 12. Domestic Credit (Appendix – page 44-45).

commercial and other establishments and manufacturing firms, had a debt-equity ratio of over 500 percent (Lardy, 1998).

The deterioration in the balance sheets has three significant implications on an economy. First, a large portion of the SOEs are insolvent. Second, many firms are not able to cover their operating costs with the income received from selling its products. They are not only borrowing to finance expansion but also paying for wages, taxes, and a growing stock of inventory of unsold goods (Jianming, 1996). Lastly, Chinese enterprises are highly leveraged that a dip in the economy could cause liquidity problems for banks. A high debt-equity ratio in a poor economy makes it difficult to pay the interest on their debts with its earnings, increasing a possibility of bankruptcy.

Even more recently, the need to keep the SOEs running continues to influence bank lending. Like Korea, government-mandated lending along with weak contract enforcement has created an indistinct credit culture, which banks have had limited incentives to maintain strict lending standards and enforce loan contracts (Pigott and Organization for Economic Co-operation and Development, 2002). These “soft budget constraints” led to over-investment which created excess and inefficient capacity that plagues the economy. Thus, what has occurred is that bank lending has become a substitute for government spending since government tax revenue has dropped over the years.

On a positive note, in 1996, China enacted a banking law that led to a significant tightening of bank lending standards by improving internal controls and tightening accountability by holding loan officers and management responsible for new problem loans. With the likes of Bank of America and Goldman Sachs buying ownership shares of

the state-owned commercial banks, one can be sure that the banks' management will look to influence lending decisions. Foreign banks are likely to be more selective in their activities and largely avoid lending to domestic enterprises until their performance improves. With China's accession to the World Trade Organization, tighter restrictions and clearer guidelines will be beneficial to the performance of Chinese banks and its lending structure. The WTO will require the opening of banks to foreign investors by the end of 2006. This will help the banks run more efficiently and more cooperatively in the international marketplace (Pasha, 2006).

### ***Nonperforming Loans***

Ernst & Young wrote in 2000, "If Asian governments, asset management companies, and banks succeed in moving nearly \$1.5 trillion of nonperforming loans (NPLs) off their books and into the private sector over the next few years, Asia will emerge as the world's growth engine, fueled by eCommerce and foreign investment." (Ernst & Young, 2002) This report on nonperforming loans included China and Japan along with the other discussed East Asian countries. A nonperforming loan is a loan that is not earning income and: (1) full payment of principal and interest is no longer anticipated, (2) principal or interest is 90 days or more delinquent, or (3) the maturity date has passed and payment in full has not been made<sup>15</sup>.

Dekle and Kletzer (2001) predict that when the ratio of lending to GDP rises, the quality of bank portfolios will decline. For example, in the mid 1980s, Korean banks had a large share of NPLs, due to the government's attempt to increase its chemical and

---

<sup>15</sup> Definition from the U.S. Department of Treasury's Office of Thrift Supervision Glossary

heavy industries. By the end of the 80s with the industries in decent condition, the share of NPLs decreased. They also state that the trend in the share of NPLs gives a measure of the quality of bank portfolios. However, given the differences in NPL accounting standards, one must view cross-country data with some caution.

The overextension of credit within the East Asian economies made them vulnerable to a shift in credit and cyclical conditions. This shift can be caused by an export slowdown and when attempting to defend exchange rates. In Asia, this happened prior to the crisis (Goldstein and Institute for International Economics (U.S.), 1998). In Thailand, South Korea, and Indonesia, analysts noted extreme banking difficulties with shares of nonperforming loans totaling from a 15 to 35 percent range. Hong Kong and Singapore fared well and were not as fragile due to their already strong banking systems.

Similar to the EA countries that were devastated by the crisis, China too has a large share of NPLs. Lardy states that by year-end 1997, the ratio of NPLs to total loans in China were also higher than in Korea and Thailand (Lardy, 1999). An Ernst & Young study in 2002 shows China's ratio of NPLs as percent of GDP is substantially higher than in Korea, Japan, and Taiwan<sup>16</sup> (Ernst & Young, 2002). However, China's NPL classifications are not based on international standards. The system will have an inaccurate account of the true share of NPLs in the country, so the true amount of NPLs may be much higher than the official data (Lardy, 1999). If the loan values of the state-owned commercial banks were valued realistically, these institutions would have *negative* capital (Pigott and Organization for Economic Co-operation and Development, 2002). Lardy (1998) also argues that if China fails to deal with the NPL banking problem

---

<sup>16</sup> Figure 13. Nonperforming Loans, % of GDP (Appendix – page 45)



quickly, it would handicap reform efforts and run the risk of igniting a domestic bank run by lower saving and hindering efficient allocation of resources.

In 2000, China made an effort to address the NPL issue. They transferred RMB 1.3 trillion (~ US\$ 150 billion) of its NPLs to bank asset management companies (BAMC). By making BAMCs, it will also allow itself to enter international capital markets in search of an investor willing to buy up its NPLs. The Korean Asset Management Corporation (KAMCO) and the Financial Sector Restructuring Authority (FRA) in Thailand succeeded early on by gathering the NPLs in their country and offering them to foreign investors at market clearing prices (Ernst & Young, 2002).

However, if an economic downturn hypothetically happened in China, the share of nonperforming loans would likely rise. Declining values of the renminbi in respect to the U.S. dollar would increase the burden of debt repayment for firms that have borrowed in US\$ and not hedged against the possibility of a renminbi depreciation. Fortunately, renminbi devaluation is unlikely in the short run as China is keen on devaluing its currency slowly and with its own timing, minus the pressure to devalue by the U.S. government. Thus, the escalation of nonperforming loans is not an immediate policy threat to the current economic status.

### ***The Speculative Currency Attack***

Most rich Western countries moved to a floating currency during the 1970s and early 80s, but smaller, poorer developing countries used a pegged exchange rate, usually to the US dollar. This characteristic gave certain stability to the domestic currency. However, this could only continue to be beneficial if the United States was the main

source of capital and also the main market for a country's products. It was the emergence of Japan as the leading Asian investor and key target market that may have caused issues with the exchange rate policy (Garran, 1998). When the Japanese yen began to appreciate against the US dollar in the mid 80s to early 90s, it was the East Asian countries that were benefiting. It made their prices more competitive compared to Japan with their weaker currency. However, the high yen was causing strain on Japan as it had been hit by a recession in the late 1980s and the speculative bubble and thus about to hit the East Asian economies when American and Japanese officials met to engineer a turnaround.

Beginning in Thailand, speculators began to question if the fixed exchange rate system would hold up or not, due to the increasing worry over external debt. Speculators then attacked the Thai baht on May 14, 1997. The Bank of Thailand had used much of its foreign-US dollar reserves to meet the demands of everyone who wanted to sell baht and buy dollars (Garran, 1998). It claimed to have in excess of \$30 billion after the sell-off. Unfortunately, the Bank of Thailand had committed that \$30 billion in forward futures contracts, meaning it actually did not have the money to buy back the baht if another attack were to happen. On July 2, 1997, the central bank let the baht float and by the end of the month, it lost 40 percent of the value.

Malaysia also experienced a hit on its currency, the ringgit, shortly after Thailand's baht. Due to its heavy borrowings, although not as high as Thailand's, confidence crumbled. A few days after Thailand's floating exchange rate announcement, the ringgit was attacked and the central bank had to buy ringgit which also depleted much of its currency reserves.

Like Thailand and Malaysia, the Bank of Korea was intervening heavily to keep the currency stable. Investors, nervous from the slump in Hong Kong's Hang Seng stock market, turned to Korea and again saw weaknesses in its major conglomerations or *chaebols*. On October 20, 1997, the weakness in the financial structure, the high debts of the *chaebols* and banks, and an increasing current account deficit made things worse; foreign investors pulled their money out. When 1997 started, investors had begun to fear that the foreign debt would not be repaid. By mid-1997, Korea's short-term debt was three times the size of its reserves.

Singapore, however, was happy to let its currency slide as soon as it began to lose its value. And it continued to lose value just like Thailand, Malaysia, and Korea. However, investors liked Singapore response to the crisis in that unlike Malaysia, no threats were made to foreign investors like George Soros<sup>17</sup>, the stock market was still liquid, and political leaders boldly declared that the market would value its currency, according to a Political and Economic Risk Consultancy report in November 1997. It also had low levels of debt compared to its neighbors, current account surpluses, and substantial foreign reserves.

### ***The Importance of Foreign Reserves***

Economist Paul Krugman states that a government can succeed for a time being in stabilizing a currency if they have a large enough foreign reserve capacity. But if reserves begin to dwindle, there will come a day when the central bank can no longer sell its currency at the promised rate. He also believes that currency runs are not due to the

---

<sup>17</sup> George Soros, a hedge fund manager, was accused of making the Asian Crisis worse by intensifying the selling of the Thai baht and Malaysian ringgit, which caused added pressure on the currencies.

irrational investor or financial manipulation, but the result of rational investors simply considering the implications of unsustainable policies.

Hong Kong escaped with only a few financial bruises due to the backing of the Chinese government. In the four days in October 1997, the Hang Seng stock market lost 23 percent of its value. Like the baht and ringgit, the Hong Kong dollar was fixed to the US dollar and there also was immense pressure on the currency. Hong Kong too had high levels of debt, and when the interest rates were raised, it was painful for the high-leveraged borrowers. However, China had communicated to Hong Kong that it was prepared to spend \$50 billion to defend the HK dollar, which helped boost the confidence that the fixed exchange rate would hold. Luckily, it worked. Thanks to China, Hong Kong had survived any serious damage.

So how did China escape a speculative currency attack? First, China's foreign exchange market is not open to those who are out to buy currency. Only buyers with a demonstrated need related to trade, tourism, and repatriation of profits derived from a prior direct investment, or repayment from foreign currency loan are allowed to purchase foreign exchange (Lardy, 1999). Also, because there is a limited forward market, speculators cannot hold short positions on the renminbi. Even domestic firms are not allowed to repay their loans in foreign currency until the loan is actually due.

Second and most importantly, China had sufficient foreign exchange reserves if needing to buy back its currency. Figure 14 shows that in 1997, its foreign reserves to total debt ratio was nearly 100 percent, enough to finance a whole year of imports, while the countries of Korea, Indonesia, Malaysia, and Thailand lacked far behind and in fact,

decreased its ratio<sup>18</sup>. Since then, China has amassed even more foreign reserves compared to its debt and is over 100 percent. Even if a currency crisis were to hit China in the short term, it does not appear that it will cause any major concern to the central bank as it has limited capital account convertibility and more than enough foreign reserves on hand if needed to protect its current peg of 8.024 Yuan to the US dollar<sup>19</sup>.

### *Conclusion*

Almost every major investment bank has stated its interest in the Chinese market over the last few years. With its entry into the WTO, foreign banks will be allowed to operate in any part of the country, which opens up possibilities in new markets with a customer base of 1.3 billion people (Pasha, 2006). This is not an unfamiliar theme in Asia, however. As demonstrated throughout this analysis, there are still areas of concern. High levels of nonperforming loans will continue to eat away at bank balance sheets and long term growth may begin to slow down as education and R&D are at low levels. In East Asia following the recovery, the markets were for the most part, up and running within two years of the crisis<sup>20</sup>. Although placed in a more difficult standing due to the IMF recovery package, the afflicted countries were rapid in reforming the necessary banking inefficiencies. Historically, China has not shown any urgency in its reforms and has stated that change will occur gradually.

Overall, China seems prepared to handle any negative pressures on the economy. It has an abundance of foreign reserves to service any foreign debt and has the capability to protect the yuan from any speculative selling. The legal framework of its capital

---

<sup>18</sup> Figure 14. Foreign Reserves to Total Debt Ratio (page 46)

<sup>19</sup> Exchange rate as of April 18, 2006.

<sup>20</sup> Bloomberg graphs (page 48).

market has also protected itself from any attacks on the currency. Also, despite the recent six year decrease in its stock markets, China has managed to have an average of 9 percent annual growth over the last several years. With the acquisitions of Western companies and the inclusion of Western management, China can learn new and more efficient methods of running businesses and can continue being competitive on the global market. If all the positives continue and there is a reduction in the inefficiencies of the economy, China's future looks clear for the time being.

Table 15 gives a side-by-side comparison of the major East Asian countries affected by the Crisis and China<sup>21</sup>. The data again shows Singapore, Taiwan, and Hong Kong with positive ratios while Thailand and Korea show highly negative ratios. Because one of the biggest factors that caused the Crisis was the lack of foreign currency reserves, the table gives more weight to this category. The current state of the Chinese economy suggests that there are factors that require some caution, similar to pre-crisis East Asia. Overall though, it appears that China will be able to be able to protect its economy from financial dangers, especially any attack on the renminbi.

---

<sup>21</sup> Table 15. Side-by-side Comparison (Appendix – page 47).

## Appendix

| <b>Table 3a. <u>Employment by Sector</u></b> |              |             |                       |             |                  |             |              |             |
|--|--------------|-------------|-----------------------|-------------|------------------|-------------|--------------|-------------|
|  | <b>China</b> |             | <b>Korea Republic</b> |             | <b>Singapore</b> |             | <b>Japan</b> |             |
|  | <u>1980</u>  | <u>2000</u> | <u>1980</u>           | <u>2000</u> | <u>1980</u>      | <u>2000</u> | <u>1980</u>  | <u>2000</u> |
| Agriculture                                  | 69           | 48          | 34                    | 10          | 1.3              | 0.3         | 10           | 5           |
| Industry                                     | 18           | 23          | 28                    | 27          | 36               | 25          | 35           | 30          |
| Services                                     | 13           | 27          | 47 <sup>^</sup>       | 63          | 63               | 74          | 54           | 64          |

<sup>^</sup> Data for 1990  
 -May not total to 100% due to rounding procedures  
 Source: World Bank, *World Development Indicators*

**Figure 3b. China - Employment by Sector (%)**

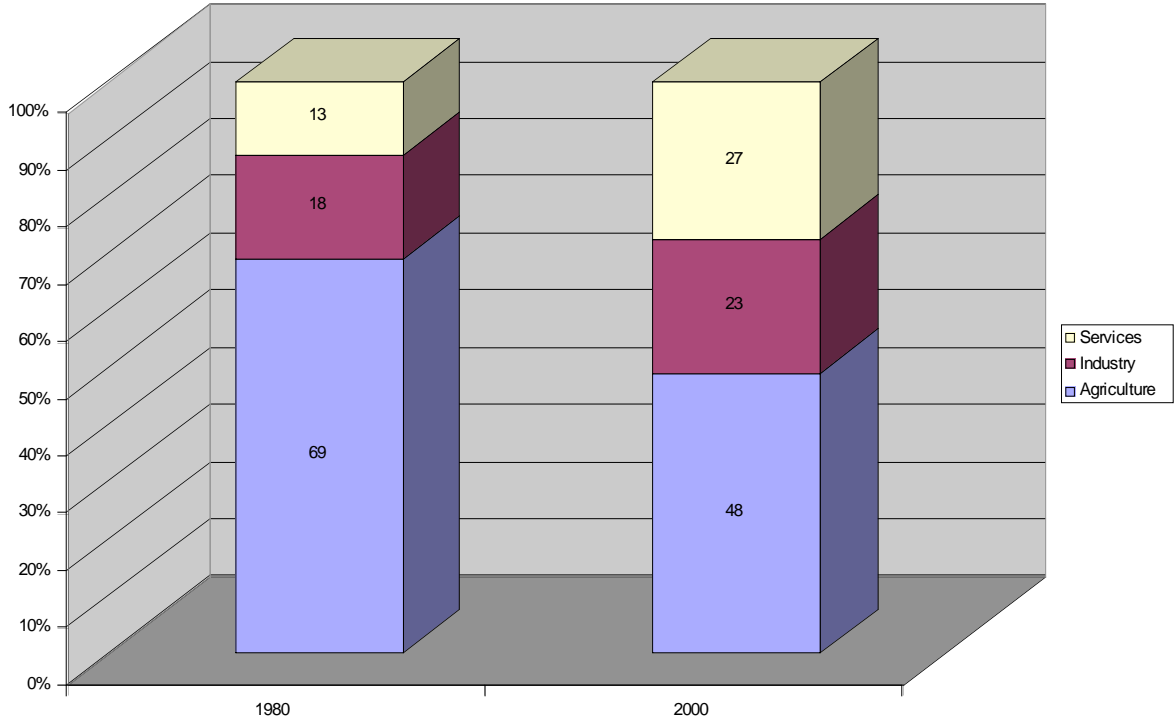


Figure 3c. Korea - Employment by Sector (%)

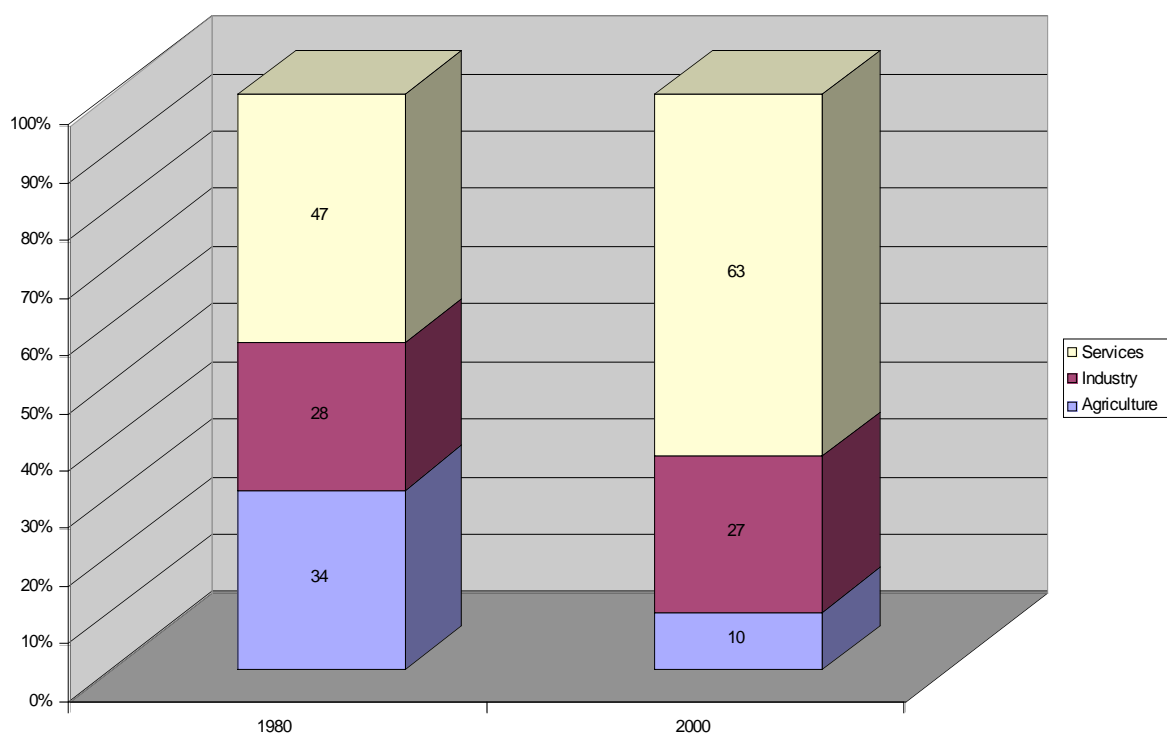


Table 3d. Arable Land (as a % of land area)

| China |       | Korea Republic |       | Singapore |      | Japan |       |
|-------|-------|----------------|-------|-----------|------|-------|-------|
| 1980  | 2002  | 1980           | 2000  | 1980      | 2000 | 1980  | 2000  |
| 10.39 | 14.70 | 20.86          | 17.40 | 2.99      | 1.49 | 13.31 | 12.27 |

Source: World Bank, *World Development Indicators*



**Table 4. Ranking System by Institutional Quality**

East Asian Countries

|           | <u>1985</u> | <u>Rank</u> | <u>1990</u> | <u>Rank</u> | <u>1995</u> | <u>Rank</u> | <u>2000</u> | <u>Rank</u> | <u>2002</u> | <u>Rank</u> | <u>Avg Rank<sup>°</sup></u> | <u>Overall Rank</u> |
|-----------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-----------------------------|---------------------|
| CHINA     | 68          | 4           | 58.5        | 7           | 72.5        | 7           | 73.8        | 7           | 75          | 7           | 6.4                         | 7                   |
| HONG KONG | 74          | 3           | 66          | 6           | 80.5        | 4           | 79.3        | 2           | 84.3        | 3           | 3.6                         | 3                   |
| KOREA     | 64          | 6           | 74.5        | 4           | 85*         | 3           | 78          | 3           | 79.8        | 4           | 4                           | 4                   |
| SINGAPORE | 77.5        | 2           | 84          | 2           | 86          | 2           | 75.8        | 4           | 90          | 1           | 2.2                         | 2                   |
| MALAYSIA  | 68          | 4           | 77.5        | 3           | 80.5        | 4           | 75.8        | 4           | 77.5        | 5           | 4                           | 4                   |
| THAILAND  | 59          | 7           | 69          | 5           | 77          | 6           | 75.3        | 6           | 76.3        | 6           | 6                           | 6                   |
| JAPAN     | 87          | 1           | 87          | 1           | 86          | 1           | 83.8        | 1           | 85.3        | 2           | 1.2                         | 1                   |
| ARGENTINA | 40.5        | 8           | 58          | 8           | 71.5        | 8           | 68.8        | 8           | 48          | 8           | 8                           | 8                   |

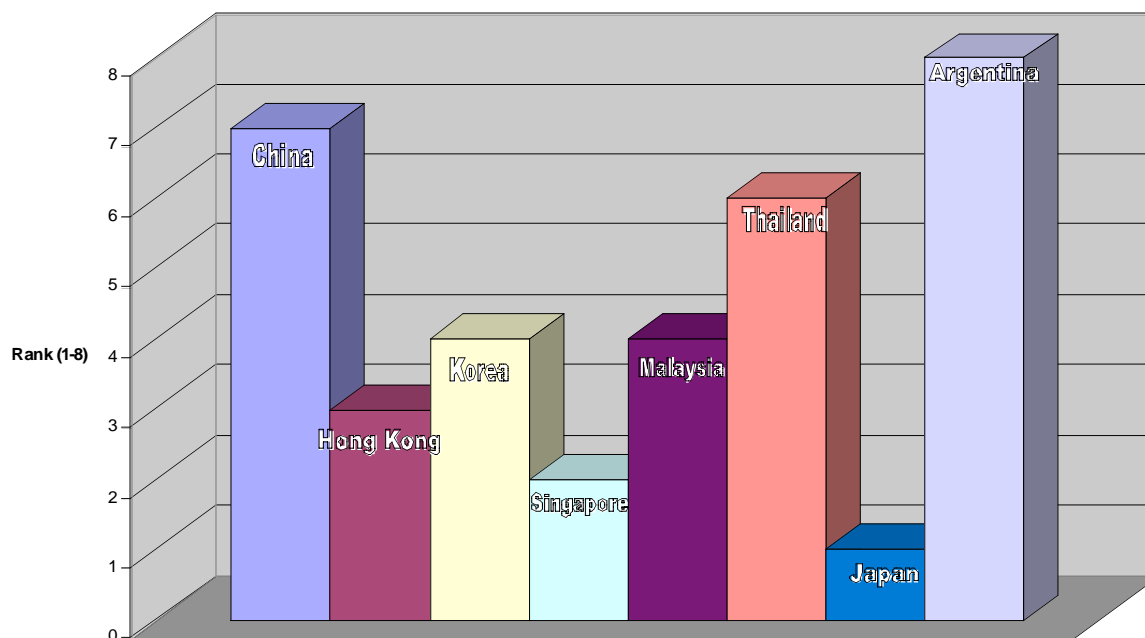
(1=highest score, 8=lowest score)

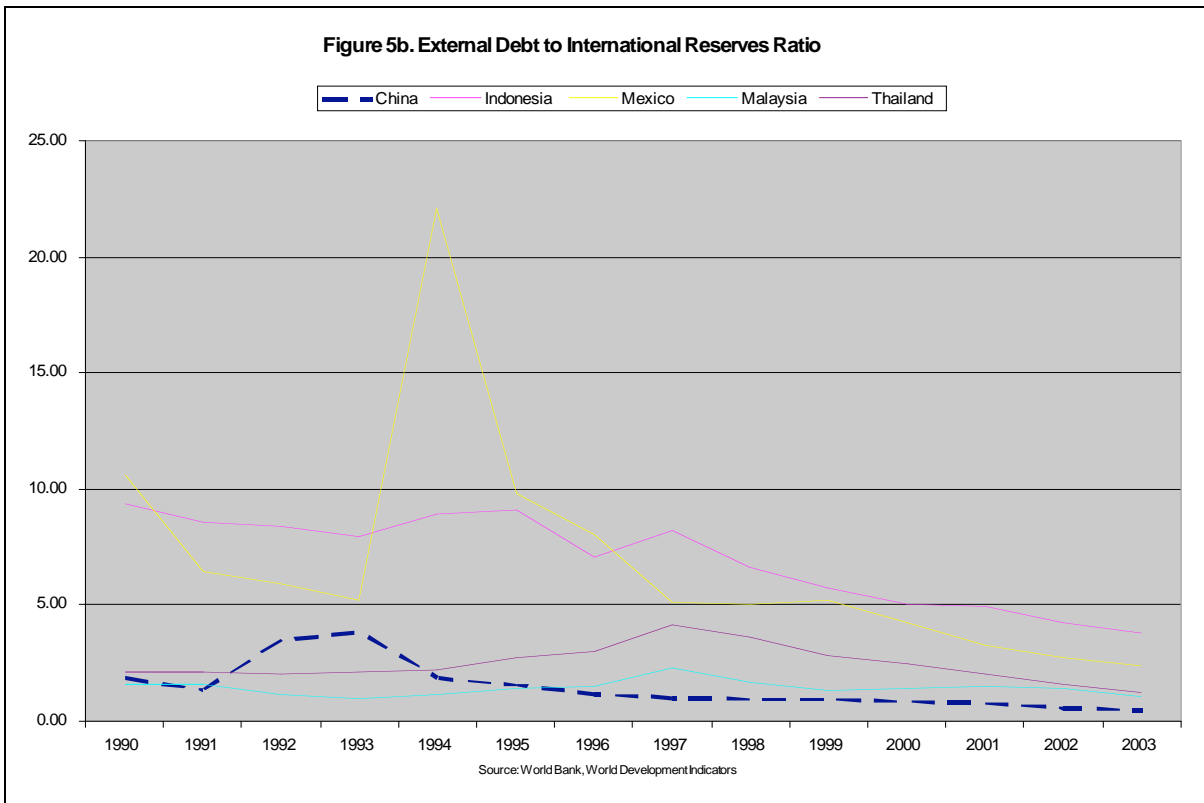
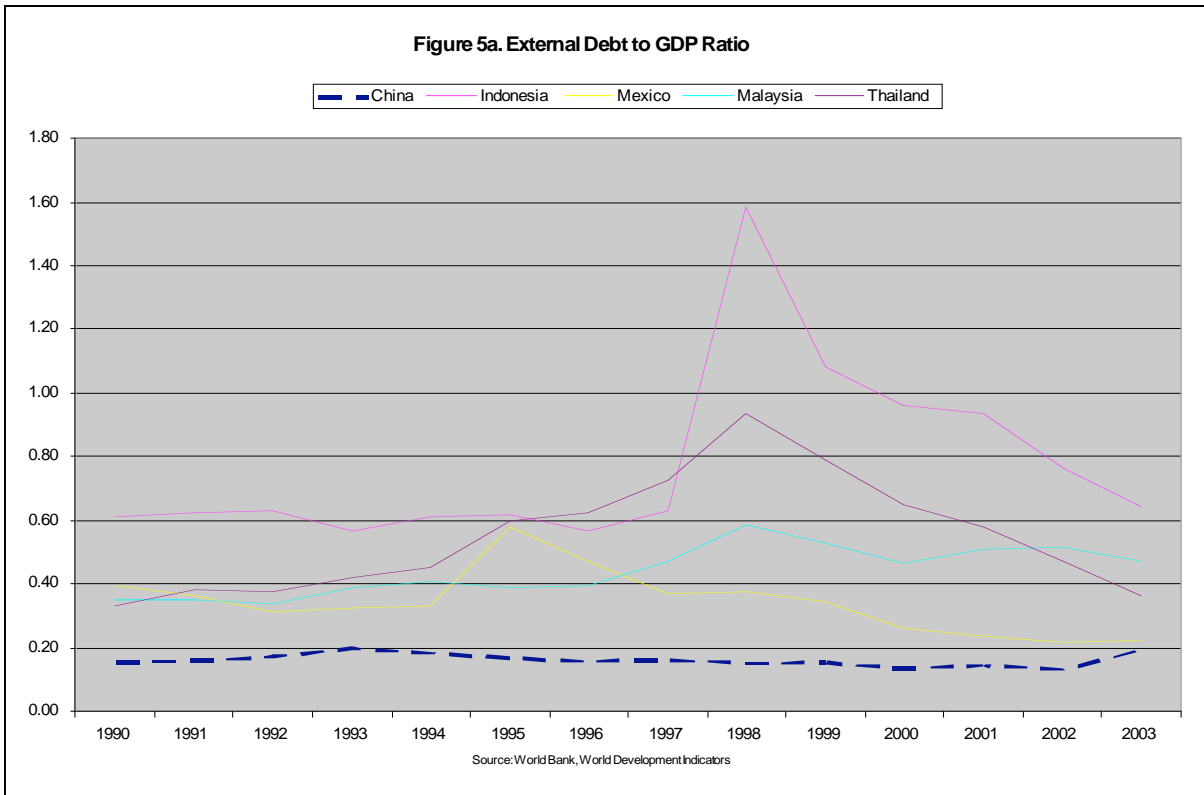
<sup>°</sup> Average rank from 1985 to 2002, Overall rank (1-8)

\* Used 1996 value

Source: World Bank, *World Development Indicators*

**Figure 4b. Institutional Quality by Rank**





**Table 6. FDI Inflow in China (1979-1999)**

|           | <b>Contracted FDI</b><br>(US\$ billion) | <b>Utilized FDI</b><br>(US\$ billion) |
|-----------|---|---------------------------------------|
| 1979-1983 | 7.742                                   | 1.802                                 |
| 1984      | 2.651                                   | 1.258                                 |
| 1985      | 5.932                                   | 1.661                                 |
| 1986      | 2.834                                   | 1.874                                 |
| 1987      | 3.709                                   | 2.314                                 |
| 1988      | 5.297                                   | 3.194                                 |
| 1989      | 5.600                                   | 3.392                                 |
| 1990      | 6.596                                   | 3.487                                 |
| 1991      | 11.977                                  | 4.366                                 |
| 1992      | 58.122                                  | 11.007                                |
| 1993      | 111.436                                 | 27.515                                |
| 1994      | 82.680                                  | 33.767                                |
| 1995      | 91.282                                  | 37.521                                |
| 1996      | 73.276                                  | 41.725                                |
| 1997      | 51.004                                  | 45.257                                |
| 1998      | 52.102                                  | 45.463                                |
| 1999      | 41.200                                  | 40.400                                |
| Total     | 608                                     | 307                                   |

Source: Wang, H. and *China Statistical Yearbook*, Beijing: China Statistics Press, various years.

**Table 7. Exports to GDP Ratio**

| <b>Country Name</b> | <b>Exports as a percentage of GDP</b> |             |
|---------------------|---------------------------------------|-------------|
|                     | <u>1996</u>                           | <u>2002</u> |
| China               | 21.0                                  | 28.9        |
| Indonesia           | 25.8                                  | 35.4        |
| Korea, Rep.         | 29.5                                  | 40.0        |
| Hong Kong, China    | 139.8                                 | 150.8       |
| Malaysia            | 91.6                                  | 114.1       |
| Philippines         | 40.5                                  | 48.9        |
| Singapore           | 132.9                                 | --          |
| Thailand            | 39.3                                  | 64.7        |

Source: World Bank, *World Development Indicators* & IMF, *International Financial Statistics*

**Table 8. Current Account Balance (as % of GDP)**

|                  | <u>1990-1995*</u> | <u>1996</u> | <u>1997</u> | <u>1998</u> |
|------------------|-------------------|-------------|-------------|-------------|
| China            | 1.21%             | 0.89%       | 4.12%       | 3.33%       |
| Indonesia        | -2.34%            | -3.37%      | -2.27%      | 4.29%       |
| Korea Republic   | -1.21%            | -4.42%      | -1.71%      | 12.73%      |
| Hong Kong, China | --                | --          | --          | 2.68%       |
| Malaysia         | -5.74%            | -4.42%      | -5.93%      | 13.20%      |
| Philippines      | -3.84%            | -4.77%      | -5.28%      | 2.37%       |
| Singapore        | 12.10%            | 15.16%      | 15.63%      | 22.64%      |
| Thailand         | -6.78%            | -8.09%      | -2.00%      | 12.73%      |

\* Data is the average percentages (1990-1995)

Source: World Bank, *World Development Indicators*

**Table 9. Change in Merchandise Exports (annual growth %)**

|             | <u>1991-1995*</u> | <u>1996</u> | <u>1997</u> | <u>1998</u> | <u>1999</u> |
|-------------|-------------------|-------------|-------------|-------------|-------------|
| China       | 19.36%            | 1.52%       | 21.02%      | 0.50%       | 6.11%       |
| Hong Kong   | 16.22%            | 4.03%       | 4.04%       | -7.47%      | -0.07%      |
| Indonesia   | 12.13%            | 9.68%       | 13.02%      | -10.53%     | 1.73%       |
| Korea       | 14.30%            | 3.72%       | 4.97%       | -2.83%      | 8.59%       |
| Malaysia    | 20.28%            | 5.97%       | 0.53%       | -6.97%      | 15.52%      |
| Philippines | 16.89%            | 16.60%      | 21.93%      | 18.21%      | 24.35%      |
| Singapore   | 17.81%            | 5.70%       | -0.02%      | -12.07%     | 4.35%       |
| Thailand    | 19.69%            | -1.27%      | 2.91%       | -5.00%      | 7.33%       |

\* Data is the average percentages (1990-1995)

Source: IMF, *International Financial Statistics*

**Table 10. Research and Development (% of GDP)**

| <u>Country Name</u> | <u>1996</u> | <u>1997</u> | <u>1998</u> | <u>1999</u> | <u>2000</u> | <u>2001</u> |
|---------------------|-------------|-------------|-------------|-------------|-------------|-------------|
| China               | 0.60        | 0.68        | 0.70        | 0.83        | 1.00        | 1.09        |
| Korea, Rep.         | 2.60        | 2.69        | 2.55        | 2.47        | 2.68        | 2.96        |
| Malaysia            | 0.22        | ..          | 0.40        | ..          | ..          | ..          |
| Singapore           | 1.39        | 1.50        | 1.80        | 1.87        | 1.89        | 2.11        |
| Thailand            | 0.12        | 0.10        | ..          | ..          | ..          | ..          |
| Hong Kong, China    | ..          | 0.27        | 0.44        | ..          | ..          | ..          |
| United States       | 2.55        | 2.58        | 2.60        | 2.64        | 2.70        | 2.80        |
| Japan               | 2.77        | 2.83        | 2.94        | 2.94        | 2.98        | 3.09        |

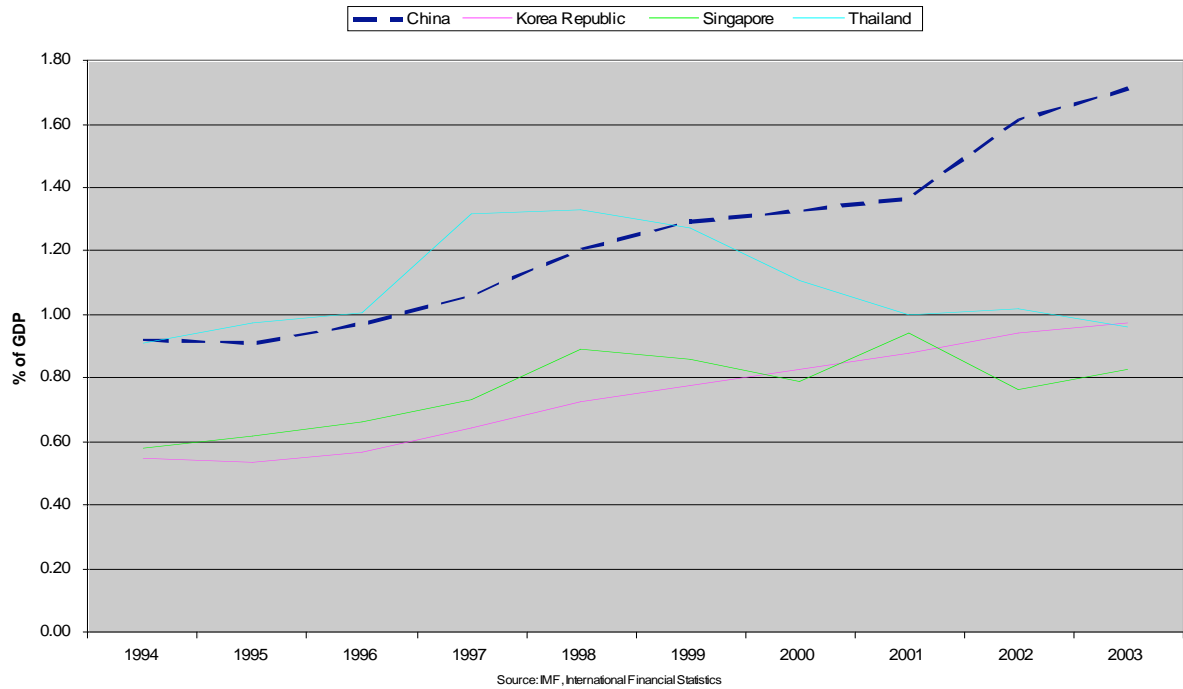
Source: World Bank, *World Development Indicators*

**Table 11. Domestic Credit (% of GDP)**

|                | <u>1994</u> | <u>1995</u> | <u>1996</u> | <u>1997</u> | <u>1998</u> | <u>1999</u> | <u>2000</u> | <u>2001</u> | <u>2002</u> | <u>2003</u> |
|----------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| China          | 0.92        | 0.91        | 0.97        | 1.06        | 1.21        | 1.29        | 1.33        | 1.37        | 1.62        | 1.71        |
| Hong Kong      | 1.40        | 1.42        | 1.53        | 1.63        | 1.46        | 1.37        | 1.36        | 1.39        | 1.43        | 1.46        |
| Indonesia      | 0.51        | 0.53        | 0.55        | 0.60        | 0.60        | 0.62        | 0.61        | 0.54        | 0.51        | 0.49        |
| Korea Republic | 0.55        | 0.54        | 0.57        | 0.64        | 0.73        | 0.78        | 0.83        | 0.88        | 0.94        | 0.97        |
| Malaysia       | 0.82        | 0.93        | 1.08        | 1.27        | 1.23        | 1.14        | 1.11        | 1.16        | 1.16        | 1.18        |
| Philippines    | 0.48        | 0.56        | 0.68        | 0.79        | 0.70        | 0.64        | 0.62        | 0.59        | 0.57        | 0.56        |
| Singapore      | 0.58        | 0.62        | 0.66        | 0.73        | 0.89        | 0.86        | 0.79        | 0.94        | 0.77        | 0.83        |
| Thailand       | 0.91        | 0.97        | 1.01        | 1.32        | 1.33        | 1.27        | 1.11        | 1.00        | 1.02        | 0.96        |

Source: IMF, *International Financial Statistics*

**Figure 12. Domestic Credit**



**Figure 13. Nonperforming Loans (% of GDP) in 2002**

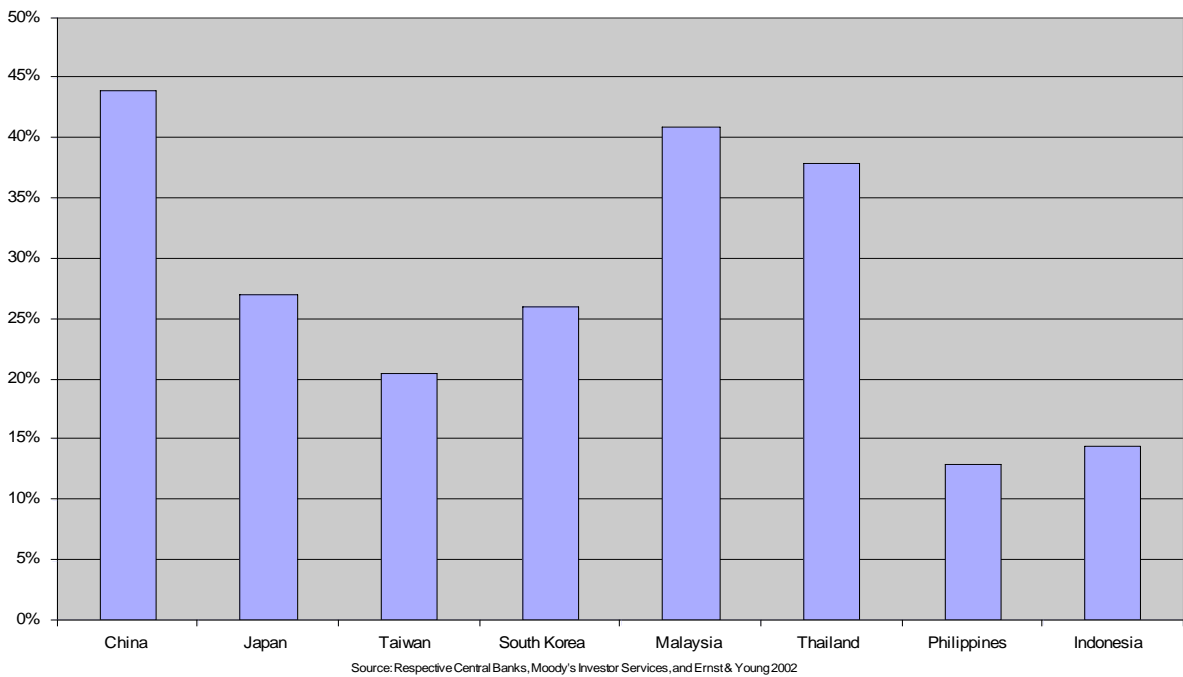
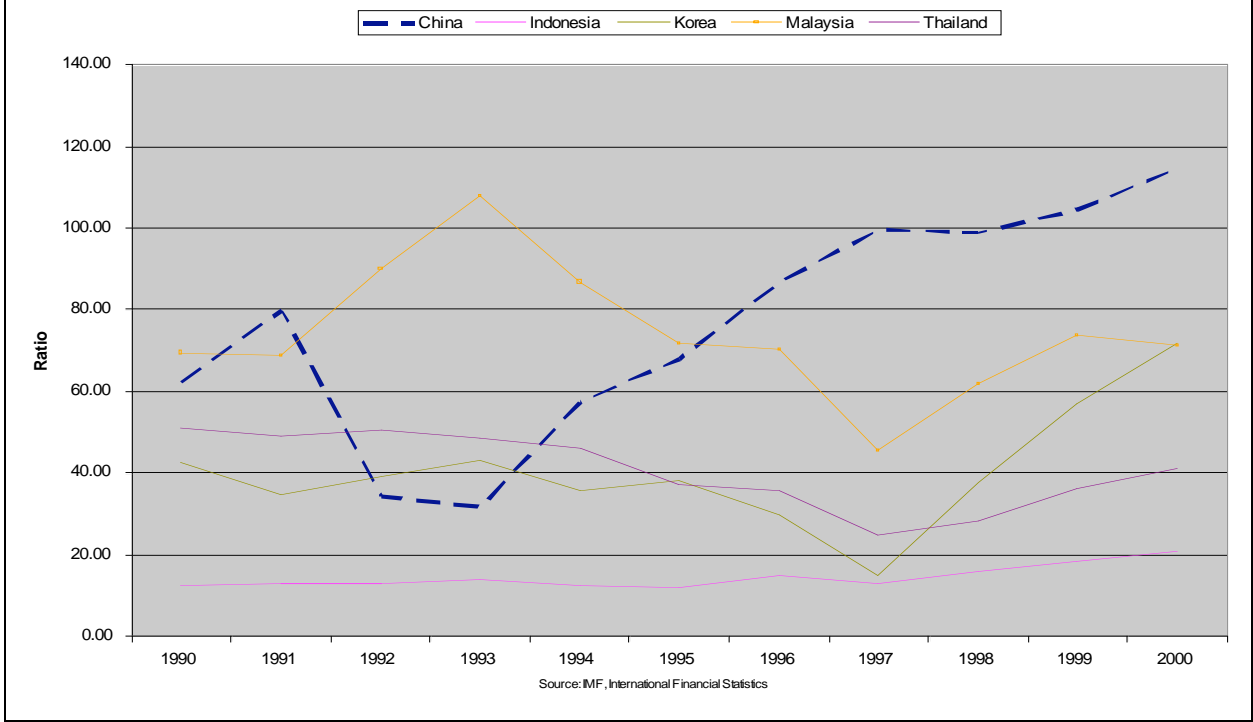


Figure 14. Foreign Reserves to Total Debt



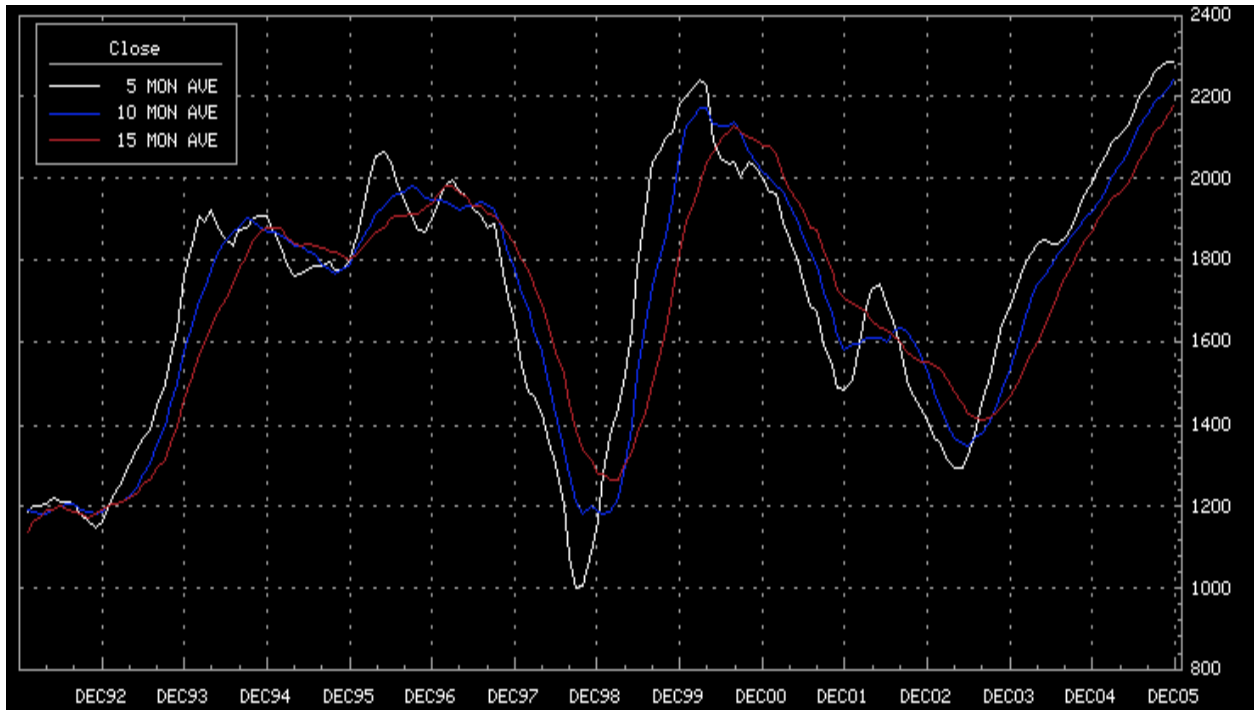
**Table 15. Side-by-side Comparison of Asian Economies**

|   | <u>Korea</u> | <u>Hong Kong</u> | <u>Malaysia</u> | <u>Thailand</u> | <u>Singapore</u> | <u>Taiwan</u> | <u>China</u> |
|---|--------------|------------------|-----------------|-----------------|------------------|---------------|--------------|
| Education spending  | ✓            | ✓                | ✓               | ✓               |                  |               | ×            |
| Employment in Industry & Services rather than Agriculture | ✓            | ✓                | ✓               |                 | ✓                |               | ×            |
| Private-public Cooperation                                | ×            | ✓                | ×               | ×               | ✓                | ✓             | ×            |
| Institutional Quality                                     | -            | ✓                | -               | ×               | ✓                |               | ×            |
| Research and Development                                  | ✓            | ×                | ×               | ×               | ✓                |               | ✓            |
| Current Account Balance                                   | ×            |                  | ×               | ×               | ✓                |               | ✓            |
| Stock Market Prices                                       | ×            | ×                | ×               | ×               | ×                | ×             | ✓            |
| Banking Deposit Insurance                                 | ×            |                  |                 |                 | ✓                |               | -            |
| Bank Lending  | ×            | ×                | ✓               | ×               | ✓                | ✓             | -            |
| Nonperforming Loans                                       | ×            | ×                | ×               | ×               | ×                | ×             | ×            |
| Domestic Credit to GDP                                    | ×            |                  |                 | ✓               | ×                |               | ✓            |
| Foreign Reserve Capacity                                  | ×            | ✓✓               | ×               | ×               | ✓✓               | ✓✓            | ✓✓           |
| <b>Total</b>  | <b>3✓8×</b>  | <b>6✓4×</b>      | <b>3✓5×</b>     | <b>2✓8×</b>     | <b>9✓3×</b>      | <b>4✓2×</b>   | <b>6✓5×</b>  |

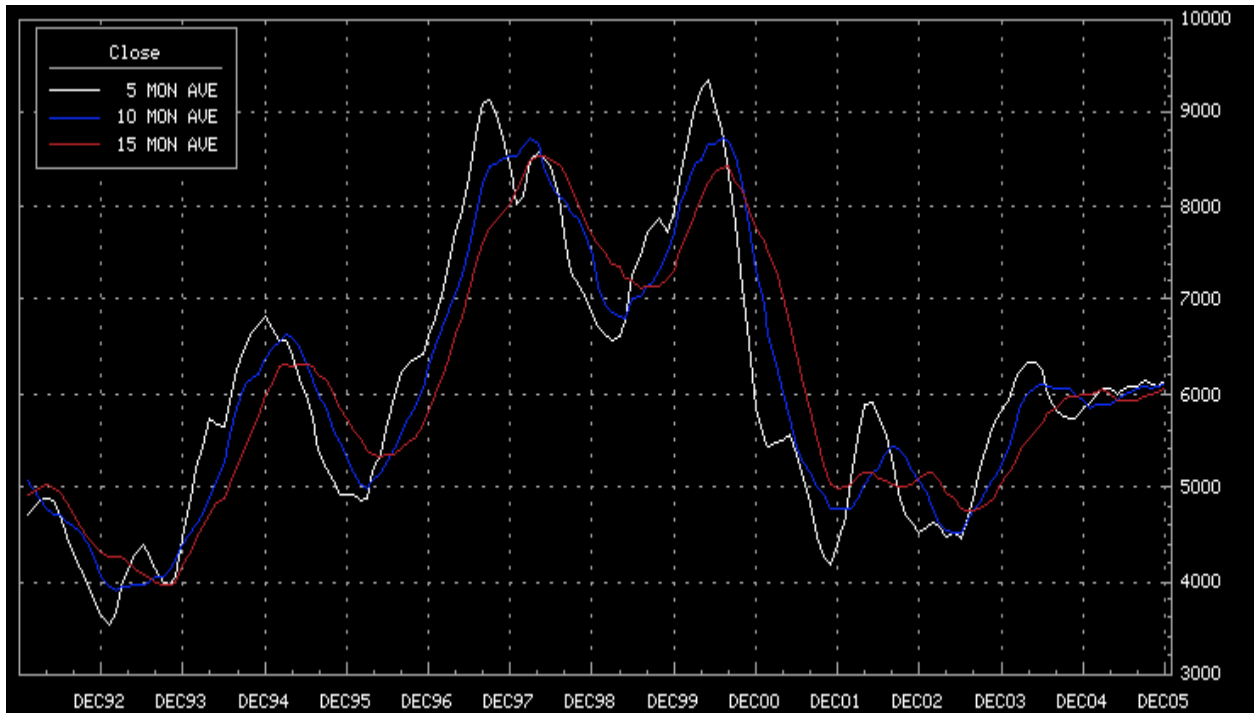
- × indicates a negative factor on growth or a financial weakness
- ✓ indicates a positive factor on growth or a financial strength
- ✓✓ indicates a highly positive factor on growth or financial strength
- indicates that it is neither beneficial or detrimental to the economy



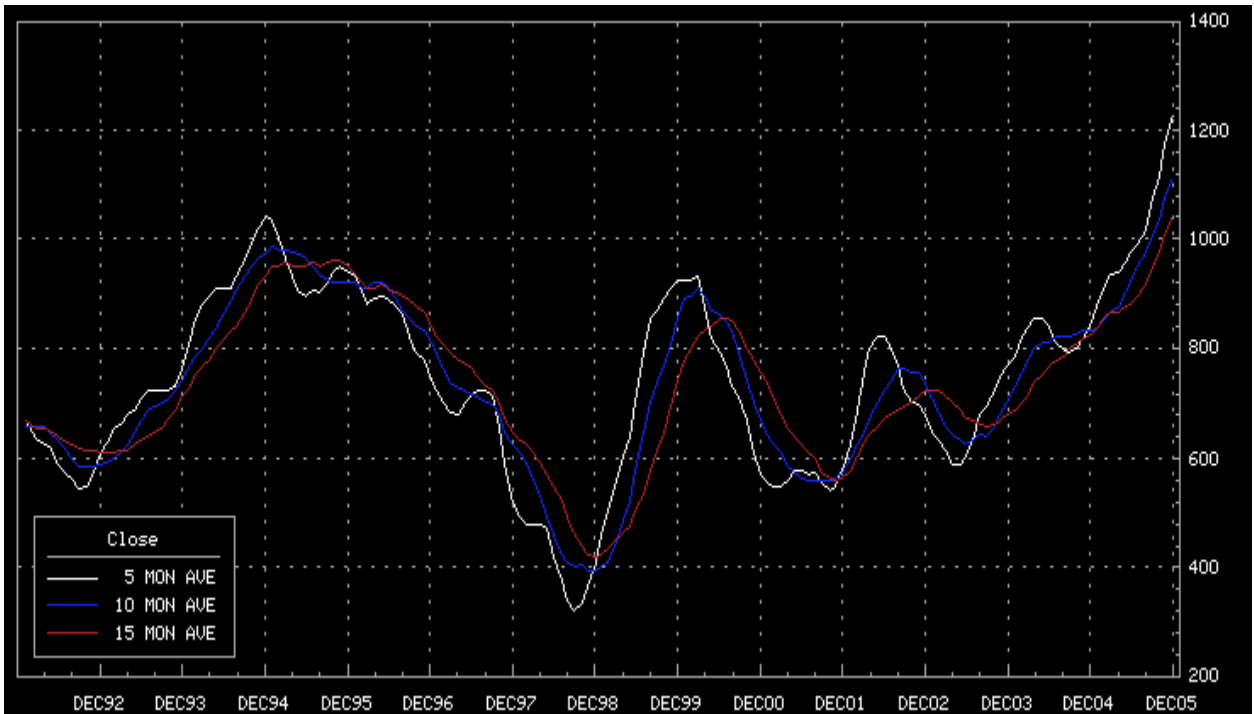
Singapore – STI Straits Times Index (Bloomberg 2006)



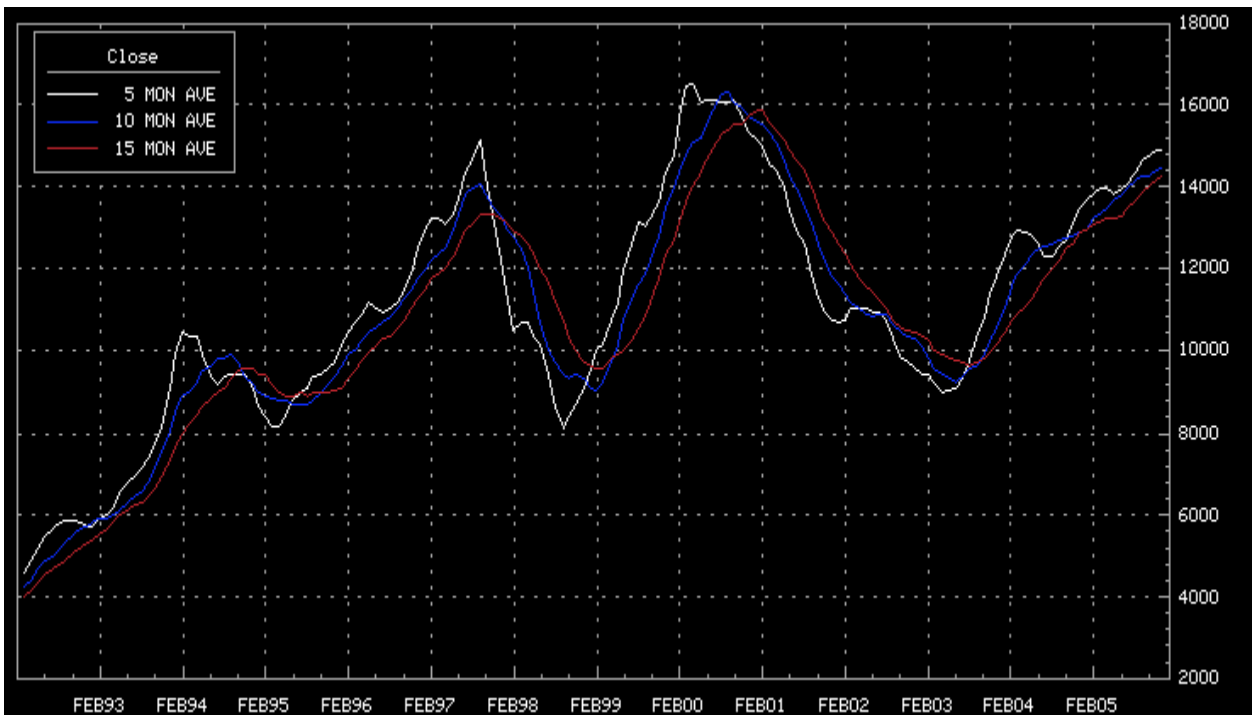
Taiwan – TWSE Taiex Index (Bloomberg 2006)



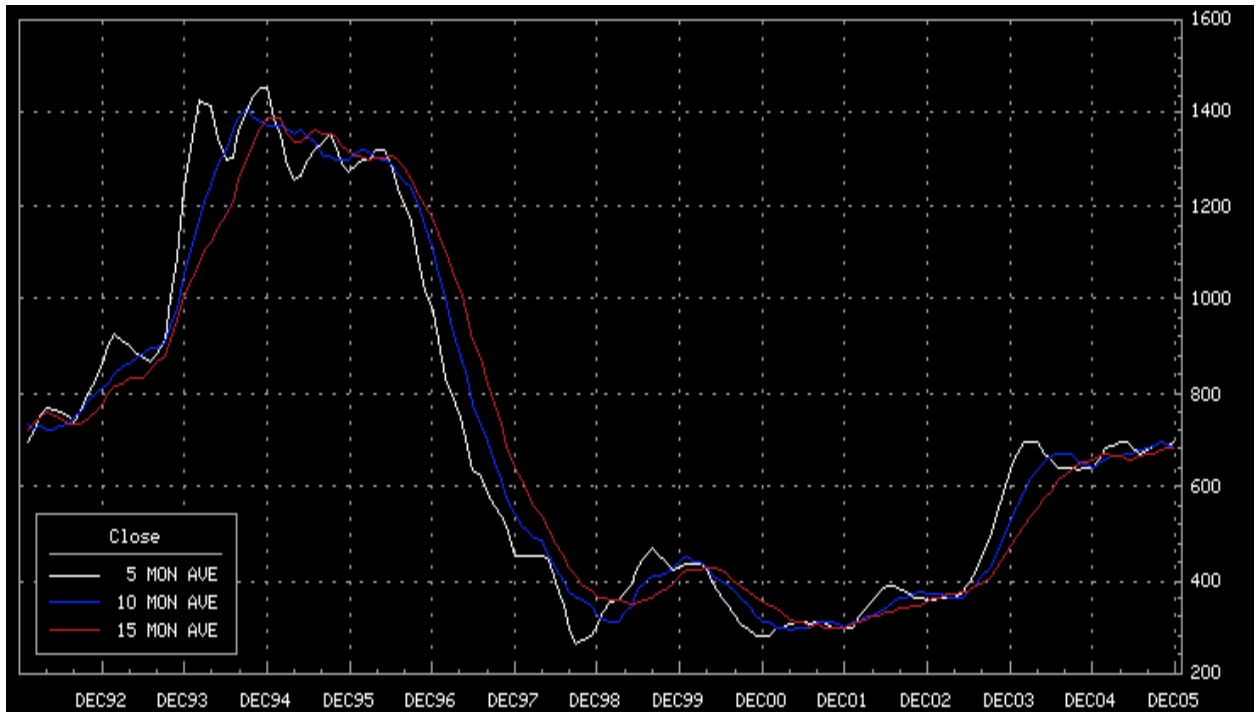
Korea Republic – Kospi Index (Bloomberg 2006)



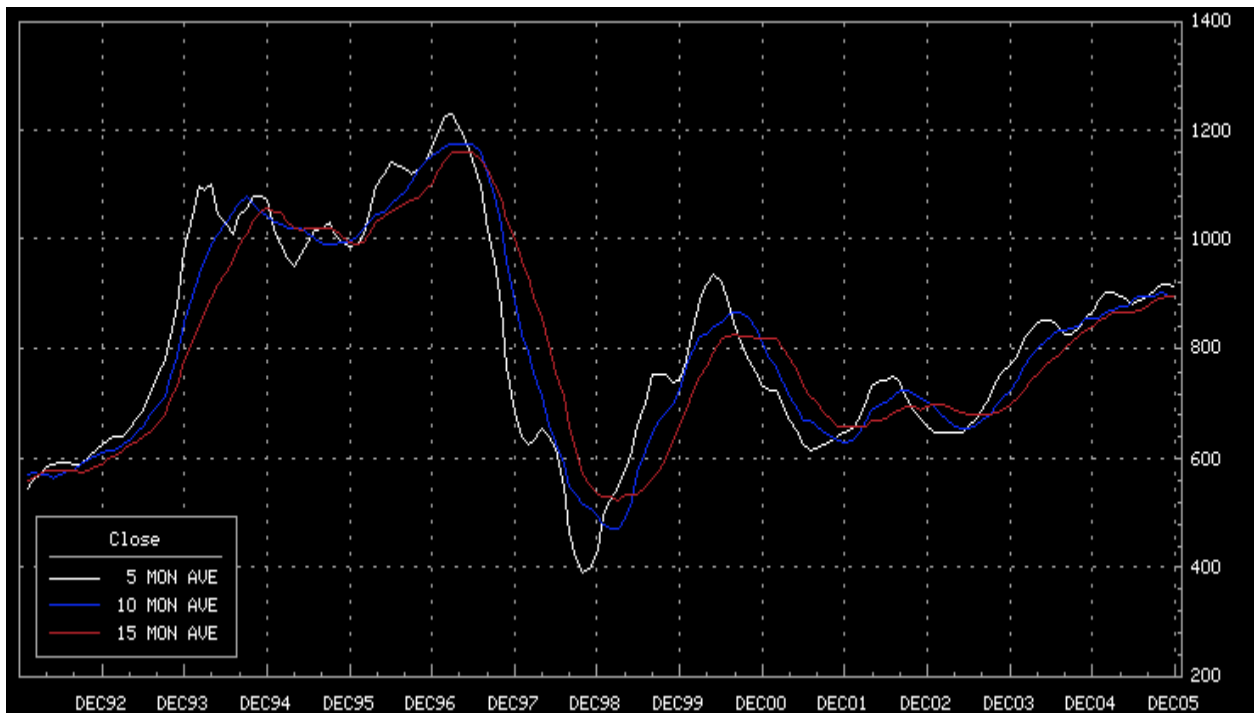
Hong Kong – HSI Hang Seng Index (Bloomberg 2006)



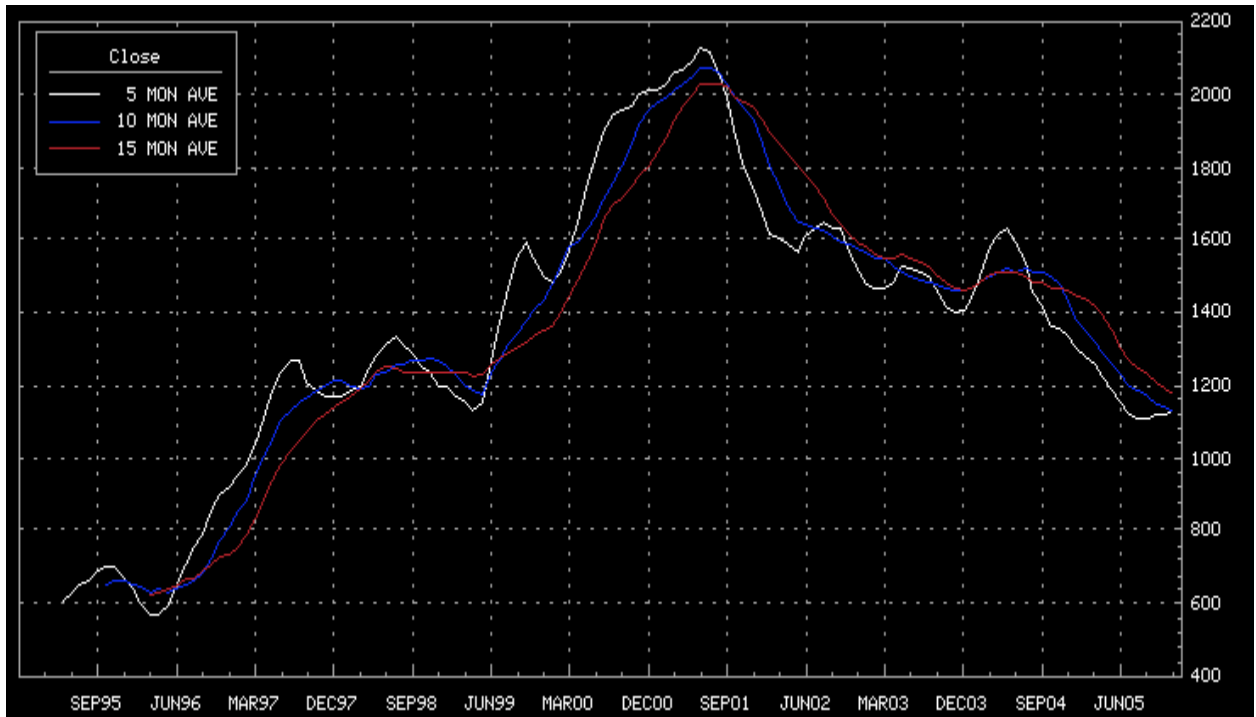
Thailand – SET Stock Exchange of Thailand Index (Bloomberg 2006)



Malaysia – KLCI Kuala Lumpur Composite Index (Bloomberg 2006)



China – SHCOMP Shanghai Composite Index (Bloomberg 2006)



China – SZCOMP Shenzhen Composite Index (Bloomberg 2006)



## References

- Abramovitz, Moses. 1986. Catching up, forging ahead, and falling behind. *Journal of Economic History* 46, (2): 385-406.
- Borensztein, Eduardo, and Jong-Wha Lee. 1999. Credit Allocation and Financial Crisis in Korea. *Working Paper of the International Monetary Fund*.
- Browne, Andrew. 2006. Rally in china may falter - foreigner's interest outpaces demand from local investors. *The Wall Street Journal*, 13 Feb, sec C10.
- “Century21 China Real Estate Joins Hands with Goldman Sachs.” Abstract. 2006. *SinoCast China Business Daily News*, 18 Jan.
- “China's Government Began a Long-awaited Bail-out of the Country's Big State-owned...” 2004. *The Economist*, 10 Jan, sec Business.
- Chu, Kathleen, and Mariko Yasu. 2006. China real estate is hot property. *International Herald Tribune*, 14 Mar, sec 3.
- Cosgrove, Mike. 2005. Basket case. *The Wall Street Journal*, 18 Aug.  
<http://online.wsj.com/article/SB112433224865916379.html>.
- Crafts, Nicholas. 1999. Implications of Financial Crisis for East Asian Trend Growth. *Oxford Review of Economic Policy* 15, (3): 110-131.
- David, Paul A., Mark Thomas, and British Academy, eds. 2003. *The Economic Future in Historical Perspective*. Oxford ; New York: Published for The British Academy by Oxford University Press.
- Dekle, Robert, and Kenneth Kletzer. 2001. Domestic Bank Regulation and Financial Crises: Theory and empirical evidence from East Asia. *IMF Working Paper*.
- Ernst & Young. 2002. Nonperforming loan report: Asia 2002. *Asia Pacific Financial Solutions*.
- Garran, Robert. 1998. *Tigers Tamed : The end of the Asian miracle*. Honolulu, Hawaii: University of Hawaii Press.

- Goldstein, Morris, and Institute for International Economics (U.S.). 1998. *The Asian Financial Crisis : Causes, cures, and systemic implications*. (Policy analyses in International economics; 55). Washington, DC: Institute for International Economics.
- Gopalan, Nisha. 2006. Global Funds Warm to China - robust economy, relaxed restrictions may support rebound. *The Wall Street Journal*, 24 Feb, sec C12.
- Green, Francis, David Ashton, Donna James, and Johnny Sung. 1999. The Role of State in Skill formation: Evidence from the Republic of Korea, Singapore, and Taiwan. *Oxford Review of Economic Policy* 15, (1): 82-96.
- Holstein, William J. 2005. The Chinese Way to Brand Identity. *The New York Times*, 13 Feb.
- Jackson, Kark D. 1999. Introduction: The Roots of the Crisis. In *Asian Contagion: The Causes and Consequences of a Financial Crisis*, ed. Karl D. Jackson, 1-27. Boulder, Colo. Westview Press.
- Jianming, Dai. 1996. Enterprises Cannot Rely on Loosening the Money Supply to Solve Their Problems. *Jinrong shibao (Financial News)*, 6 Sep.
- Kim, Eun Mee, ed. 1998. *The Four Asian Tigers: Economic Development and the Global Political Economy*. San Diego, CA: Academic Press.
- Kwan, C. H. 1997. Causes and Consequences of Asia's Currency Crisis. Tokyo: Nomura Research Institute, Oct.
- Lane, Timothy. 1999. The Asian Financial Crisis: What we have learned? *Finance & Development* 36, (3), <http://www.imf.org/external/pubs/ft/fandd/1999/09/lane.htm>.
- Lardy, Nicholas R. 1998. *China's unfinished economic revolution*. Washington, D.C.: Brookings Institution.
- 1999. China and the Asian Financial Contagion. In *Asian Contagion: The Causes and Consequences of a Financial Crisis*, ed. Karl D. Jackson, 83-104. Boulder, Colo. Westview Press.
- Lin, Justin Yifu, Fang Cai, Zhou Li, Hong Kong Centre for Economic Research, and International Center for Economic Growth. 1996. *The China Miracle : Development Strategy and Economic Reform*. (Friedman lecture fund monograph). Hong Kong:

Published for the Hong Kong Centre for Economic Research and the International Center for Economic Growth by the Chinese University Press.

- Linebaugh, Kate. 2006. How Foreign Banks Scaled the Chinese Wall - titans acquire minority stakes with little control of their own; will the strategy prove wise? *The Wall Street Journal*, 23 February, sec C1.
- Lo, Alex. 1999. Steps on Hi-tech Route. *Sunday Morning Post*, 13 Mar.
- Macmillan, John, and Barry Naughton. 1992. How to Reform a Planned Economy: Lessons from China. *Oxford Review of Economic Policy* 8, (1): 130-143.
- Organization for Economic Co-operation and Development. 2003. *China: Progress and Reform Challenges*. (OECD Investment and Policy Reviews). Paris: OECD.
- Pasha, Shaheen. 2006. Banks' Obsession with China May be Overblown. *CNN Money*, 31 Mar.  
[http://money.cnn.com/2006/03/30/news/companies/china\\_banks/index.htm?section=money\\_latest](http://money.cnn.com/2006/03/30/news/companies/china_banks/index.htm?section=money_latest).
- Pigott, Charles A., and Organization for Economic Co-operation and Development. 2002. *China in the World Economy : The Domestic Policy Challenges : Synthesis report*. Paris: Organization for Economic Co-operation and Development.
- Pomerleano, Michael. 1998. The East Asia Crisis and Corporate Finances: The untold micro story. *World Bank Policy Research Working Paper #1990* 1.
- Prasad, Eswar, ed. 2004. China's Growth and Integration into the World Economy. *IMF Occasional Paper* 232.
- Rakshit, Mihir. 2002. *The East Asian Currency Crisis*. New York: Oxford University Press.
- Thurow, Lester. 1998. Asia: The Collapse and the Cure. *New York Review of Books*. 5 Feb.
- Vines, Stephen. 2000. *The Years of Living Dangerously: Asia-- from Financial Crisis to the New Millennium* [[Wei chi]]. New York: Texere.
- Wang, Hongying. 2001. *Weak State, Strong Networks: The Institutional Dynamics of Foreign Direct Investment in China*. New York: Oxford University Press.

World Bank. 1993. *The East Asian Miracle : Economic Growth and Public Policy*. (A World Bank Policy Research Report, 1020-0851). New York, N.Y.: Oxford University Press.

Zhang, Peter G. 1998. *IMF and the Asian Financial Crisis*. (World Scientific Asian Economic Profiles). River Edge, NJ: World Scientific.