SHORT-TERM FOREIGN FUNDS, A COMPARATIVE STUDY BETWEEN CHINA AND VICTIM COUNTRIES OF 1997 ASIAN FINANCIAL CRISIS

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ABSTRACT

The 1997 Asian financial crisis inflicted serious economic damages to many Asian countries. However, China was conspicuously avoided being severely attacked by this crisis. This study compares the growth patterns of foreign short-term debt, the foreign debt structure and short-term foreign capital between China and victim countries both before and after the crisis. Evidence shows that China was aggressively using short-term foreign debt and short-term foreign capital in the last several years. This indicates that China is exposing itself to great financial risks.

Key Words: 1997 Asian financial crisis, foreign short-term debt, debt structure, financial risks.
JEL Code: F34 , F37

I. INTRODUCTION

This year (2007) marks the tenth anniversary of the Asian financial crisis, which swept across Eastern Asia and inflicted serious economic damages to many Asian countries, particularly Thailand, Malaysia,

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Indonesia, Philippines and South Korea. Some experts (e.g. Dadush et al, 2000) have suggested that the key factor that rocked the economic stability in the victim countries was the rapid build-up of international short-term debt and other short-term foreign capital (the so-called "hot money").

Foreign investment and foreign debt provide a good leverage to the economic development of the recipient countries. Nonetheless, high levels of foreign debts require a large outflow of funds serving the debt. Therefore, foreign funds, particularly short-term debt and short-term investment, also weakens the borrowing nation's ability to deal with economic shocks. Consequently, for developing countries, the speed and magnitude of absorbing external capital, especially short-term capital, must be controlled within the rational limits of an economy's absorptive capacity (Guitian, 1998).

However, this crisis conspicuously exonerated China. Some observers believed that this was because China was still in the transition period from command economy to market economy. However, transition economy, or even command economy, is not necessarily exempted from financial problems. China's relative strength to combat this crisis, as pointed out by several authors (e.g. Bottelier, 1998, and Liu, 2000), came from the prudent external borrowing strategy.

In the last decade, the world has witnessed the emergence of China as an economic power. China's Gross Domestic Product (GDP) increased from $952.65 billion in 1997 to $1,931.71 billion in 2004[2]. The average annual growth rate of China's GDP during this period was 10.62%. An optimistic feeling is permeating in the country.

However, one of the lessons we learned from 1997 financial crisis was that financial crisis might break out as suddenly as a volcano eruption. We also learned that financial crisis often attacked a country which had high economic growth and good economic fundamentals. Many of the victim countries were even taken as models of economic development for other developing countries. China's present conditions seem to fit this pattern

[2] . Unless otherwise specified, data used in this study are from World Development Indicators (World Bank, 2006).

very well. Therefore, it is imperatively important to check China's present economic health. This study intends to compare the pattern of foreign short-term debt, the foreign debt structure and short-term foreign capital build-up between China and the victim countries before the 1997 Asian financial crisis and after the crisis.

II. RAPID GROWTH OF FOREIGN SHORT-TERM DEBT

Foreign capital undoubtedly has an important role in the economic growth of many developing countries. Without these funds, the high growth in those countries was impossible. However, the excessive foreign capital influx often makes the economy of the recipient countries vulnerable to internal and external economic shocks.

Before the Asian financial crisis, short-term debt borrowed by developing countries from foreign banks soared from $176 billion in 1990 to $454 billion in 1997[3]. East Asia absorbed nearly 60 percent of all short-term capital flows to the developing countries. These inflows fueled the domestic credit boom in East Asia and the credit boom in turn led to an increase in assets prices, creating an appearance of high returns (World Bank, 1998). Table 1 shows the total debt and short-term debt imported by the victim countries before the 1997 Asian Financial Crises. Figure 1 shows the trend of the short-term debt of Eastern Asian countries.

Table 1 Total Debt and Short-term Debt for Victim Countries of the 1997 Asian Financial Crisis

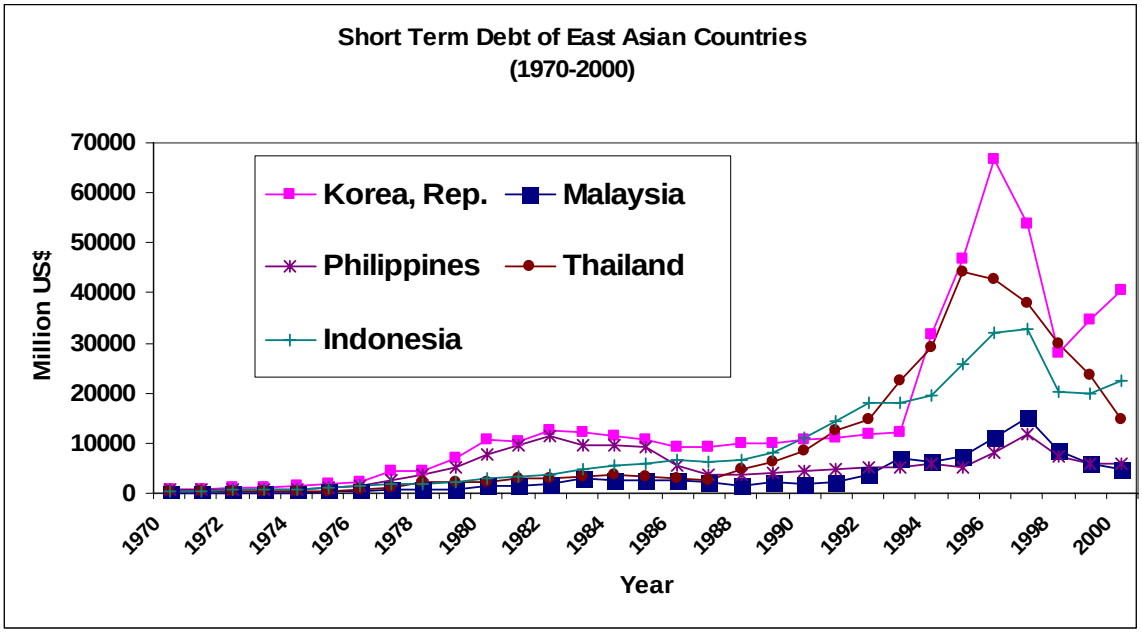
(Unit of Currency: Millions of US Dollar)

Country Name	Total Debt			Short-term Debt		
	1993	1997	Annual Growth	1993	1997	Annual Growth
South Korea	47.202	136.984	30.52%	12.200	53.792	44.91%
Indonesia	89.1719	136.1608	11.16%	17.987	32.865	16.26%
Malaysia	26.1485	47.2282	15.93%	6.951	14.939	21.08%
Philippines	36.1428	50.7455	8.85%	5.035	11.794	23.71%
Thailand	52.638	109.6988	20.15%	22.634	37.836	13.71%

(Data source: Global Development Finance, World Bank, 1999)

[3]. Source: The Bank for International Settlements (BIS).

Figure 1 Short-term Debt of Eastern Asian Countries



From Figure 1, we can see that these victim countries had slow and steady growth of foreign short-term debt between 1970 and 1994. Nevertheless, beginning from 1994, these countries started excessive borrowing. These borrowings stimulated the growth of these economies. However, when these economies were attacked by speculators, international investors quickly lost their confidence in these economies and reversed the direction of capital flows. As a result, financial markets in these countries collapsed and financial crisis took place. This process, i.e. positive exponential growth before the crisis and negative exponential decline after the crisis, is often described as logistic differential functions and can be expressed with the following equation.

$$\frac{d\,X(t)}{dt} = r\,X(t)\,(1 - \frac{X(t)}{K}) \qquad (1)$$

where X(t) = foreign capital imported for a country at time t,

r = constant relative growth rate of foreign capital imported,

t = time period.

K = the maximum imported capital the country can attain.

Recently, several efforts have been made to use this model to describe some of the economic processes, such as capital accumulation in a country (Ferreira, 1998), debt borrowing pattern in Russia (Trofimov, 2000). For our purpose, if a country's curve of short-term debt borrowing is consistent with a logistic differential curve, it means that the country has excessive growth in short-term debt. The association between excessive growth in short-term foreign debt and the subsequent financial crises has been observed repeatedly in the emerging markets. Therefore, logistic differential curve is a reliable barometer to forecast the impending financial crisis.

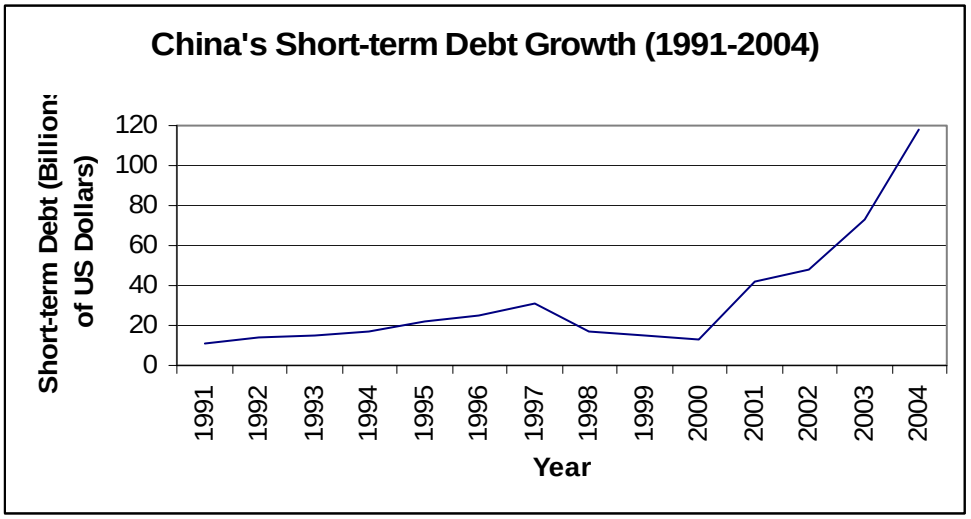
China adopted a very prudent policy towards foreign debt, particularly short-term debt before 1997 (Liu, 2000). But what happened to the Chinese policy toward short-term foreign debt in the last several years? Table 2 compares China's short-term foreign debt, total foreign debt and ratio between short-term debt and total debt before and after the 1997 Asian financial crisis. From the table, we can see that before 1997 China was prudent in borrowing short-term foreign debt. However, after 1997, China's short-term foreign debt shot up at an average annual rate of 31.45%. If we narrow down out attention to the period between 2000 and 2004, the average annual growth rate of China's short-term foreign debt was a shocking 73.16%. Figure 2 shows China's short-term foreign debt growth during this period of time.

Table 2 A Comparisons of China's Short-term Foreign Debt, Total Foreign Debt and Ratio between Short-term Debt and Total Debt (1991-2004) before and after the 1997 Asian Financial Crisis (Units: Billions of US dollar)

		1991	1992	1993	1994	1995	1996	1997	Growth
Before Crisis	Short Debt	10.78	13.77	15.30	17.48	22.33	25.41	31.46	16.53%
	Total Debt	60.26	72.43	85.93	100.46	118.09	128.82	146.70	13.55%
	Ratio	17.89%	19.01%	17.80%	17.40%	18.91%	19.72%	21.45%	
After crisis		1998	1999	2000	2001	2002	2003	2004	
	Short Debt	17.34	15.18	13.08	41.61	47.89	72.97	117.59	31.45%

	Total Debt	144.01	152.09	145.73	170.13	168.34	193.57	248.93	8.13%
	Ratio	12.04%	9.98%	8.98%	24.46%	28.45%	37.70%	47.24%	

Figure 2 China's Short-term Debt Growth between 1991 and 2004



By using China's short-term debt numbers, we conducted a logistic differential curve test[4]. Equation (1) can be rewritten as Y(t) = r X(t) – (r/K)X2 (t) when we approximate $dX(t)/dt$ by X(t+1) – X(t). Thus we consider the following more general equation, i.e., the econometric form of Equation (1):

$$Y(t) = \alpha + \beta_1 X_t + \beta_2 X_t^2 + \varepsilon \qquad (2)$$

where $\beta_1 > 0$ and $\beta_2 \leq 0$.

The test is a straightforward regression analysis. The independent variables are short-term debts of China between 1997 and 2004 and its squared numbers. The dependent variable is the debt change of a particular year, i.e. X(t+1) – X(t). In this test, β_1 obtained is 1.594 and β_2 obtained is -.826. The positive β_1 and negative β_2 indicate that the shape of the curve is consistent with logistic differential curve. This implies that China's economy is exposing to extremely high risks.

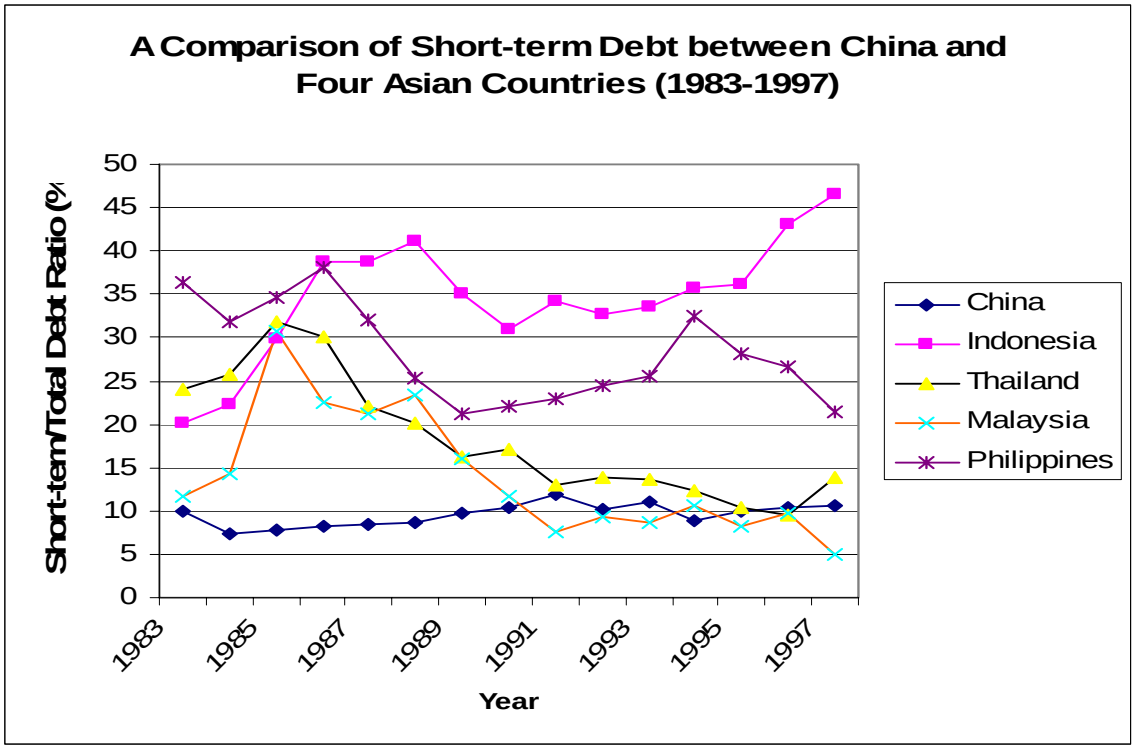
[4] . Details of logistic differential curve test can be found in Liu and Hu (2004).

III. DEBT STRUCTURE

The direction of short-term foreign debt flows can be easily reversed and cause borrowing nations a problem known as "liquidity runs". The higher the level of short-term debt relative to a borrowing country's total debt is, the greater the risk of such runs will be. Therefore, the debt structure is also an important indicator of a country's financial health (Liu, 2000).

Figure 3 shows the comparison of short-term debt to total debt ratio between China and the four victim countries in the period between 1983 and 1997[5]. An obvious phenomenon we can observe in this graph is that China's short-term debt to total debt ratio was the lowest comparing with the victim countries. In another word, China had a healthy debt structure in that period.

Figure 3 A Comparison of Short-term Debt between China and Four Victim Countries in 1997 Financial Crisis



[5] . South Korea is not included because data of South Korea are no long available in "Global Development Finance".

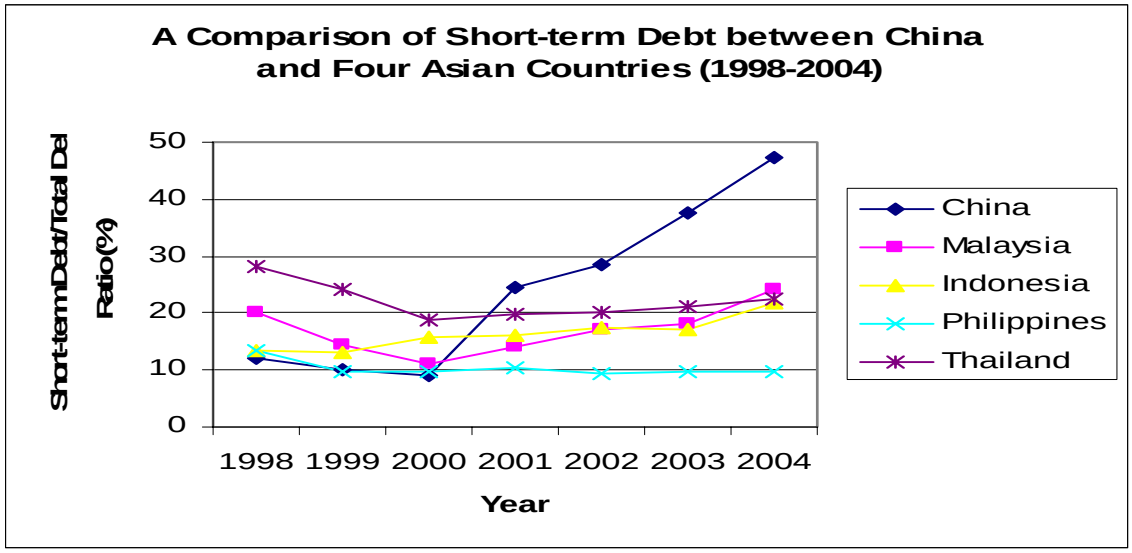
From this figure, we can see that the short-term debt constitutes a large portion of the external debt of the victim countries before they were attacked by the crisis. Banks in these countries were heavily involved in carry trades, i.e. borrowing large amount of foreign currencies and liberally making loans in domestic currencies largely for speculation investments. This debt structure made Eastern Asian economies unprotected to sudden reversals. This is a big lesson we learned from the Asian financial crisis.

However, in the last several years, China's short-term debt seems to be also out of control. Table 3 and Figure 4 compare the short-term foreign debt to total debt ratio between China and other four Asian countries between 1998 and 2004.

Table 3 Comparison of the Short-term foreign Debt to Total Debt Ratio between China and Other Four Asian Countries between 1998 and 2004

Short-term debt/Total debt (%)	1998	1999	2000	2001	2002	2003	2004
China	12.04	9.98	8.98	24.46	28.45	37.70	47.24
Malaysia	19.97	14.35	11.06	14.10	17.14	17.98	24.31
Indonesia	13.30	13.25	15.68	16.27	17.31	17.05	21.92
Philippines	13.42	9.89	9.77	10.26	9.25	9.86	9.58
Thailand	28.27	24.20	18.67	19.68	20.05	21.05	22.39

Figure 4 A Comparison of Short-term Debt to Total Debt Ratio between China and Four Victim Countries in the period of 1998 and 2004



We can clearly see that China's short-term debt to total debt ratio was skyrocketing from 9% in 2000 to 47% in 2004. China's short-term debt to total debt ratio in 2004 was not only way above those of the other four comparing countries in 2004 but also higher than those of the other four comparing countries in 1997.

The risks China exposes itself to can also be viewed more directly from the perspective of debt structure. Table 4 reports the debt structure of China and four other Asian countries. In 1997, China's GDP was $953 billion, more than five times higher than Indonesia's GDP. But China's total debt was $146.70 billion, just ten billion dollars (or 7%) higher than Indonesia's total debt. The short-term debt to total debt ratio was 21.45%, lower than those of the other four countries.

However, a dramatic change took place when we look at China's debt structure in the year of 2004. China's total foreign debt in 2004 reached $248.93 billion, much higher than any of the other four comparing countries. The short-term foreign debt to total foreign debt ratio was 47.24%. Many experts suggest that the excessive use of short-term foreign debt was the major reason why the 1997 financial crisis took place. Now China has high total debt, high short-term debt and high short-term foreign debt to total foreign debt ratio. Obviously, whistles should be blown loudly to the Chinese financial administrators to take appropriate measures to curb the impending threat.

Table 4 A Comparison of Debt Structure between China and Four Other Asian Countries in 1997 and 2004 (Units: Billions of US dollar)

	Total Debt		Long-term debt		Short-term Debt		1997 Short-term Debt to Total Debt Ratio	2004 Short-term Debt to Total Debt Ratio
	1997	2004	1997	2004	1997	2004		
China	146.70	248.93	115.23	131.34	31.46	117.59	21.45%	47.24%
Indonesia	136.16	140.65	103.30	106.46	32.86	34.19	24.14%	24.31%
Malaysia	47.23	52.15	32.29	40.71	14.94	11.43	31.63%	21.92%
Philippines	50.75	60.55	38.95	54.75	11.79	5.80	23.24%	9.58%
Thailand	109.70	51.31	71.86	39.82	37.84	11.49	34.49%	22.39%

Figure 5 A Comparison of Debt Structure between China and Four Other Asian Countries in

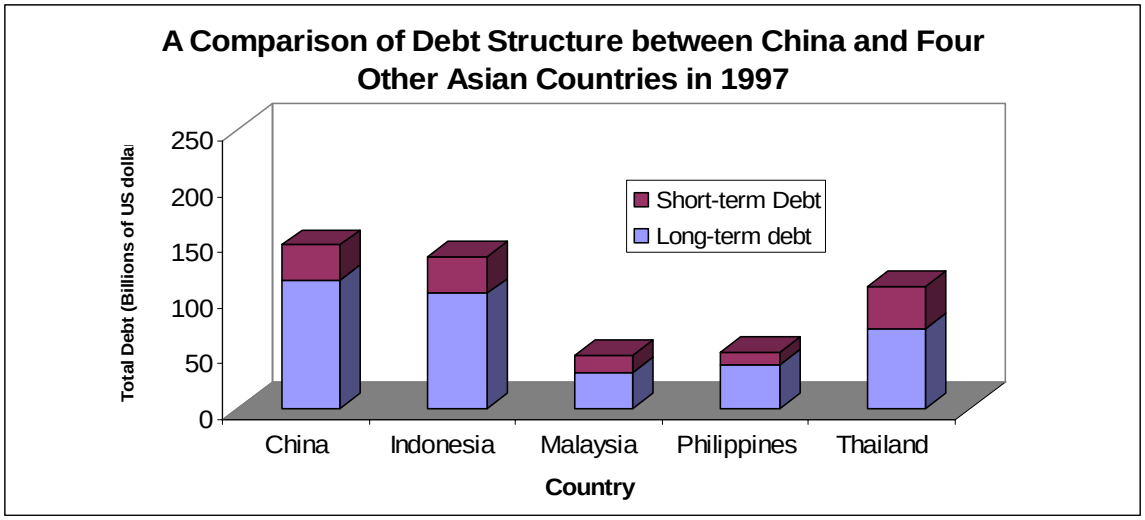


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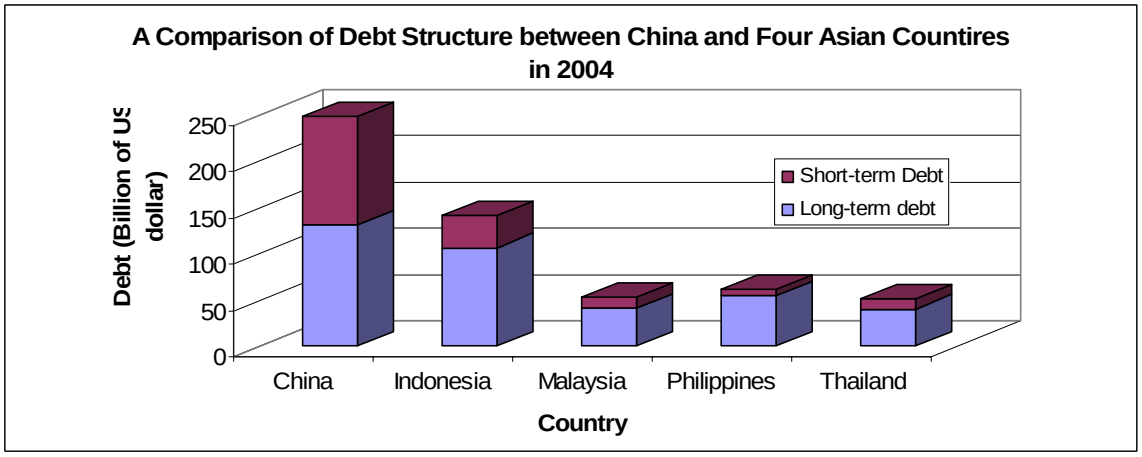
Figure 6 A Comparison of Debt Structure between China and Four Other Asian Countries in 2004



IV. INTERNATIONAL HOT MONEY

Because investors are often looking into emerging market for high returns, the world financial market has been integrated into a huge marketplace with large volume and high liquidity. The size of world financial market has been expanding exponentially. Since 1995, global

capital flows have tripled to $6.4 trillion, about 14.5% of world GDP[6]. These investments can generally be categorized into two types: foreign direct investment (FDI) and short-term funds (hot money).

Foreign direct investment, usually in the form of equity contribution of multinationals, is an important means of international investment. Such investment is usually very stable. For the five victim countries of Asian financial crisis in 1997, FDI remained constant at around $7 billion both before and after the crisis.

However, non-FDI investment forms (portfolio investment and bank debts) are double edge sword. On the one hand, they are big impetus for the high growth in many of the developing countries. The mobility of capital is one of the most important goals of financial markets. The free movement of capital permits a more efficient global allocation of savings and directs resources toward their most efficient use. This movement raises the levels of welfare in both the capital exporting countries and in the capital importing countries.

On the other hand, international hot money is susceptible to sudden reversal and poses a big threat to the safety of emerging financial market. Some economists (e.g. Stiglitz, 2000) view unfettered capital flows as disruptive to global financial stability. During the 1997 Asian financial crisis, the combined non-FDI investment forms in the five victim countries dropped from $93 billion to -$12.1 billion, a dramatic swing of $105 billion. The outflow of international hot money had big negative impact on stock markets of the victim countries. For example, the Thai stock market fell 40% in 1996 and an additional 20% in 1997.

In the recent years, activities in China's financial market attracted a lot of attention in the world. By the end of February of 2006, China's foreign reserve had skyrocketed to $853.7 billion and China had surpassed Japan as the largest foreign exchange reserve possessor in the world. However, the most significant increase of capital inflows to China, as reported by Bouvatier (2007), were mainly non-FDI capital inflows rather

[6]. Source: Finance and Development, March 2007.

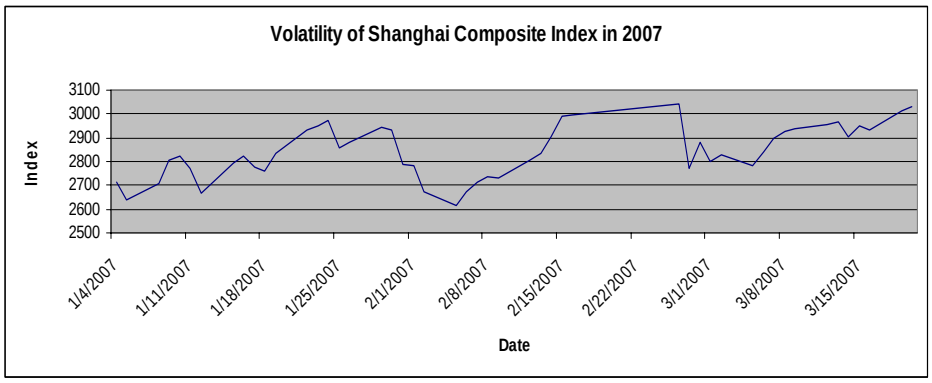
than trade surplus or net FDI flows. In the year of 2003 and 2004, current account surpluses were $45.87 and $68.66 billion in the respective years, and net foreign direct investment (FDI) were $47.23 and $53.13 billion in the two years, non-FDI capital inflows were estimated at $68.96 and $84.64 billion in the respective years. The non-FDI capital inflows were driven by the interest rate differences between China and other countries coupled with the expectations of the revaluation of Chinese currency, RMB (Renminbi).

It is reported that about 300 billion US dollars came into China's stock market in the year of 2006[7]. These funds dramatically increased stock prices in China. Take the Shanghai composite index as an example, in the year of 2006, this index increased from 1242.77 at the beginning of the year to 2675.47 at the end of the year, with an annual return of about 115.28%.

This trend continues in 2007. In the first three months of the year, Shanghai Composite index increased by 10.44% (equivalent to an annual increase of 42%). On February 26, 2007, this index reached the historical high of 3040.6.

[7]. Xinhuanet.com, 2007.3.26.

However, as the stock market climbs quickly, the risk also increases dramatically. On February 27, 2007, Shanghai Composite Index fell 268.81 (8.84%) in a single day. This was the biggest decline in China's stock market since 1997. The following graph shows the high volatility of China's stock market in the first three months of 2007.



The decline in China's stock market trigged a sell-off in the international stock market. The Dow Jones Index closed down 416.02 points, or 3.3%. It was the Dow's seventh-worst point decline and worst since September 17, 2001, the day U.S. markets reopened after the Sept. 11 attacks. Many financial analysts have expressed their big concern that the high volatility of China's stock market is the beginning of something more serious, such as a 1987-style crash. Therefore, how to deal with the international hot money will be a critical test to the Chinese financial administrators in the coming years.

V. DISCUSSION

This study analyzes three problems of China's utilization of short-term foreign funds: excessive rapid growth of foreign short-term debt, improper debt structure and quick growth of international hot-money. The growth of short-term foreign capital borrowing is often accompanied by higher incomes, faster growth, and greater openness to the world for developing countries. But the rapid rise in importing short-term foreign

funds also reflected speculative asset booms in some countries. As the flow of short-term foreign funds tends to reverse rapidly during adverse economic shocks, excess short-term foreign borrowing increases the economic vulnerability of many countries.

Therefore, the importance of sensible and effective macroeconomic policies towards short-term foreign funds can never be over-emphasized. To maintain the stability of economic growth, developing countries, particularly those with high economic growth rate, should be very cautious in dealing with the risks of excessive amounts of short-term funds. It is essential for them to establish an efficient and effective macroeconomic monitoring system, particularly the system to monitor the short-term funds and short-term investment closely. Short-term funds must be managed effectively to avoid currency and liquidity crises. Developing countries can benefit from foreign investment and debt only in the transparent, robust and well-regulated financial markets. Liberalization of market must be accompanied by sensible regulation of financial institutions and financial markets.

China's prudent policy towards foreign debt borrowing significantly contributed to the stability of its financial market, which in turn contributed to its economic successes in the last two decades. Unfortunately, however, China has deviated from this tradition in the recent years and exposed itself to enormous financial risks.

This study is by no means intending to make a forecast. However, China's remarkable success in the last two decades was achieved through the hard work of 1.3 billion people. More importantly, the importance of the financial stability of China, as one of the most important economic powers in the world, can never be overstressed. Therefore, Chinese financial administrators should keep a cool head and properly address the problems which might ruin the hard-earned achievements.

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