Foreign Exchange Rate Regimes And The Asian Currency Crisis

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ABSTRACT

This thesis is a study on the Asian currency crisis. It starts with a review of the theories on foreign exchange rate regimes and their adjustment mechanisms. The monetary approach of foreign exchange rate is discussed and used as a framework in analyzing on the origins and causes of the currency crisis, which started in the East Asia in mid 1997.

A lot of statistical data are used in the analysis on the crisis-hit countries in terms of prices, interest rates, external competitiveness, foreign exchange rates of major currencies and the flow of foreign capital and so on. It is found that the main origins and causes of the Asian currency crisis are from the deterioration of external competitiveness and the misuse of foreign capital and bad supervision of the domestic financial markets. The characteristics of a pegged exchange rate regime has proved to be too rigid to reflect the changes in the fundamentals of the economy and has been responsible for the accumulative inconsistencies leading to the collapse of the regime.

The Asian currency crisis indicates that in the present world in which economic globalization has become a mainstream trend, it is getting more difficult to maintain a pegged exchange rate regime. The Asian currency crisis also reflects the importance of the establishment of a sound financial sector and good supervisory and governing abilities of the government when liberalizing its domestic financial market, especially on the opening of the domestic capital market. A rush of financial liberalization would likely generate vulnerabilities to the economic system.

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However, none of the above individuals hold responsibility for the opinions expressed, or for any remaining errors and omissions, which lie solely with the author.

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Chapter 1

Introduction

Section 1: Background: the Asian currency crisis

In July 1997, the currency crisis erupted in Thailand when the Thai central bank gave up its policy of pegging its currency baht to a basket of currencies dominated by the US dollar, after running out most of its foreign reserves in defending. The Thai baht sharply depreciated in a very short period of time. Facing strong attacks from the international speculators and the continuing withdrawing of foreign capital, the central banks of Philippine, Malaysia, Indonesia and South Korea were forced to abolish their pegs one after another, leading to a serious regional currency crisis. By the beginning of 1998, the Thai baht depreciated by about 55%, the Malaysian ringgit by 45%, the Philippine peso by 40%, the Indonesian rupiah by 80% and the Korean won by 60%.

The currency crisis spread to Russia in August 1998 and Brazil in the beginning of 1999 and has become a worldwide crisis, giving strong shocks not only to the crisis countries but also the world economy. It increased the foreign debt-servicing burden to the borrowers in the crisis countries and provoked more bankruptcies of corporations and banks, leading to a banking crisis in most of these countries. The sharp devaluation of the currencies has also caused crash in the assets markets in these countries. It increased the inflation rate and unemployment rate, dragging the economies into recession ---all of these countries have experienced negative economic growth in 1997 and 1998. The contraction of economies also decreased the general demand of the world and slowed down the world economic growth. The crisis countries have been undertaking economic reform and restructuring under the guide of the IMF financial support programs. After one and a half years of adjustment, most of the crisis countries have turned out some possibilities of recovery from the crisis, especially Thailand and South Korea, in regaining growth in export and attracting more foreign capital inflow.

Section 2: Purpose of this study

Why did the long running pegged exchange rate regime collapse over night in these countries? What are the implications we can draw from this crisis in the foreign exchange rate policies and utilization of foreign capital in developing countries? This thesis tries to answer the above questions by examining the origins and causes of this currency crisis, in aspects of the prices, international competition, the exchange rates of major currencies and the flow of foreign capital and so on.

Section 3: Outlines of the thesis

The remainder of the thesis is organized as follows:

Chapter 2 presents a brief review on the theories about the mechanism and regimes of foreign exchange rates. The fluctuation of foreign exchange rates is the consequences of money movements among countries through economic activities like foreign trade and foreign investment. The monetary approach of foreign exchange rate, which bases on the study of monetary factors is reviewed here and will be used as a framework in our later analysis on the origins and causes of the currency crisis. According to the monetary approach, the foreign exchange rate is determined by the purchasing power parity (PPP) in long term and by the interest rate parity (IRP) in short term. On the basis of the PPP theory and the IRP theory, we discuss how the mechanism of foreign exchange rate works under different foreign exchange rate regimes --- floating and peg. The rigidity of the pegged exchange rate makes it unable to reflect the daily changes in the fundamentals of the economies, and therefore under the peg, it is possible to accumulate the discrepancy between the exchange rate and the economic fundamentals, which might lead to collapse of the system. To successfully maintain the pegged regime, the government must maintain their economic policies especially the monetary policy roughly in accordance with the key currency economy, properly guide the flows of capitals and maintain a large foreign reserves to support the peg when necessary. In the past several decades, as the economic

globalization has become a mainstream trend, more and more countries have shifted their foreign exchange rate regimes to the floating because of a series of internal and external factors. It is becoming more and more difficult to maintain a peg.

Before starting the analysis on the Asian currency crisis, Chapter 3 gives a narrative account in the evolution of the Asian currency crisis.

The analysis on the origins and causes of the East Asian crisis is undertaken in Chapter 4 and Chapter 5. Chapter 4 discusses mainly on the changes in the external competitiveness of the crisis countries, in terms of labor cost, external competition, exchange rates of major currencies and so on. It is found that several factors had contributed to the deterioration of the external competitiveness of the East Asian countries and contributed to the collapse of their pegged exchange rate regimes:

Chapter 5 focuses on the analysis of the flow of foreign capital and the effectiveness of utilization of foreign capital in the East Asian countries. Foreign private credits are mainly short-term loans, seeking higher return of investment and flowing worldwide, and are regarded as a potential uncertainty to the host countries. Foreign direct investments tend to stay in the host countries for long term and are the desirable foreign capitals to the host countries. The data show that most of the East Asian countries had utilized too much foreign private credit. The massive withdrawing of foreign capital concurrent with the speculative attacks was one of the main causes of the collapse of the pegs. Another important factor contributed to the currency crisis is that these East Asian countries had not built a sound financial sector and a good regulatory system on the flow of foreign capital while liberalizing their domestic financial markets. The long running pegged exchange rate regimes and the high economic growth rates in the East Asian countries had encouraged over-borrowing in foreign capital, especially short-term private credit. A large volume of foreign short-term capitals were used in low return projects or non-tradable good industries like real estates, which were not able to provide foreign exchange earnings to service the foreign debts. The currency crisis caused more difficulties in the US dollar denominated foreign debt servicing, which led to banking crisis and further deteriorated the rest aspects of the economies.

Chapter 6 discusses the present situation of the currency crisis in the crisis-hit countries and the prospect of the currency crisis. The economic reform and restructuring in the crisis-hit countries has created obvious effectiveness, especially in Thailand and South Korea. But whether these countries can recover quickly from the crisis depends on several factors, which includes the progress of the economic reform in Japan, the effect of the latest Brazilian real crisis, the sustainability of the Chinese RMB and HKD and so on.

Finally, Chapter 7 contains a summary of the conclusions and the implications in the foreign exchange rate polices and foreign capital utilization in developing countries.

The Asian crisis has shown that it is getting more and more difficult to maintain a peg, with the growing flow volume of hot money in the international financial market. The world economy is becoming more and more integrated and liberalized, a floating exchange rate can efficiently reflect the changes in the external competitiveness and the capital flows in related countries, and its fluctuation can give accordingly adjustments to the economies.

The Asian currency crisis also shows the importance of establishing a sound corporate and financial sector, and a sound supervisory and regulatory system in the process of liberalizing the domestic financial markets. A rush for financial liberalization would only generate vulnerabilities to the economic system.

Chapter 2

Foreign Exchange Rate Regimes and Their Adjustment Mechanisms: A Review of Theories

Section 1: The Evolution of Foreign Exchange Rate Regimes

1.1 The collapse of the Bretton Woods monetary system

After World War Two, the Bretton Woods monetary system was established. Under this system, the U.S. dollar value was fixed in terms of gold ($35 per ounce initially, $38 per ounce in 1971, and $42.22 per ounce in 1973), while other countries pegged their currencies against the U.S. dollar within a narrow margin of plus or minus 1 per cent. Each government maintained its pegged exchange rate by intervening in foreign exchange market (selling or buying its official reserve assets) or executing different economic policies or outright control on international capital flows to guide private capital movements. Each government could not use devaluation as a competitive trade policy. Any devaluation over 10% must be approved by the International Monetary Fund (IMF). The IMF supervised the system by assessing the equilibrium condition of each exchange rate level, and gave necessary assistance to its member countries, which were trying to defend their currencies against cyclical, seasonal or random occurrences (Eiteman, *et al*, 1995)

This monetary system had been working well until the late 1960s. It collapsed officially in 1973, as a result of oil shock, the persistent and growing deficit policy of the US, increasing divergence in policy objectives among participants especially those major countries like the U.S., Japan, West Germany and so on. The increasing importance of private capital in the international financial market was another major factor (Mussa, *et al.* 1994)

1.2 The current monetary system and its development

The Bretton Woods system was replaced by the current monetary system, which is characterized by the mixture of exchange rate arrangements.

Initially, major developed countries including the US, Japan and West Germany, voluntarily adopted the managed floating exchange rate regime. Under this regime, the governments did not intend to make a consistent, determined effort to adjust their economic policies to keep their exchange rates within announced and relatively narrow limits or ranges, though they occasionally intervened to influence their exchange rates.

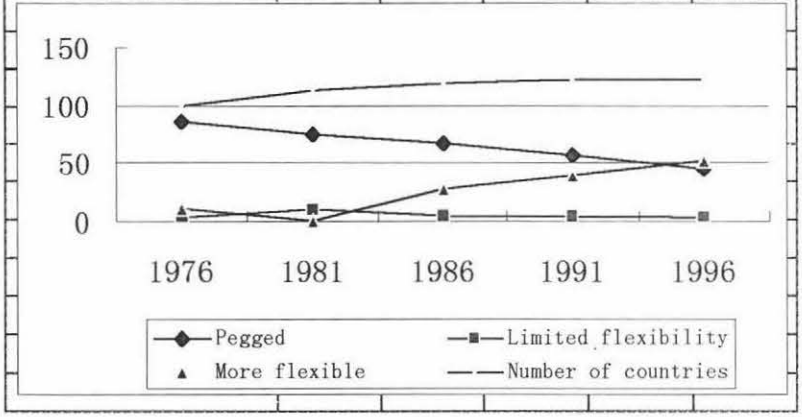
More and more developed countries abandoned the pegged exchange rate regime and let their currencies float in the market. These countries include Australia, New Zealand, Norway, Switzerland, Finland, Sweden, the United Kingdom, Italy and so on.

Most of the developing countries pegged their currencies to a key foreign currency in 1970s. But since the 1980s, the trend has also occurred in developing countries to switch the foreign exchange rate regime to the floating regime. As in Table (chart) 2-1, in 1976, 86% of developing countries pegged their currencies to a single currency or a basket of currencies, only 11% of developing countries adopted floating exchange rate regime. By 1996, more than half of developing countries had shifted to the floating exchange rate regime. The recent currency crisis has further increased the percentage of the countries adopting the floating regime.

To have an in-depth analysis of the factors underlying the shifting trend from a peg to floating exchange rate regime in developed and developing countries, let us now turn to the mechanism of foreign exchange rate under different foreign exchange rate regimes.

Table 2-1: Developing Countries: Officially Reported Exchange Rate Arrangements (in percentage)

	1976	1981	1986	1991	1996
Pegged	86	75	67	57	45
U.S.dollar	42	32	25	19	15
French franc	13	12	11	11	11
Other	7	4	4	3	4
SDR	12	14	18	20	14
Composite	12	14	18	20	14
Limited flexibility	3	10	5	4	3
Single	3	10	5	4	3
Composite					
More flexible	11	1	28	39	52
Set to indicators	6	3	4	4	2
Managed floating	4	9	13	16	21
Independently floating	1	4	11	19	29
Number of countries	100	113	119	123	123



Sources: World Economic Outlook Oct. 1997, International Monetary Fund

Section 2: The determination of foreign exchange rate

2.1 A monetary approach to foreign exchange rate

According to the monetary approach to the determination of foreign exchange rate (Claassen, 1996), from the point of view of international integration of markets for goods

and financial assets. The most important role of the exchange rate is to equilibrate goods and financial markets in an open economy with international goods and financial movements and its fluctuations reflect the changes in money movement resulted by foreign trade and investment. In the long-term, the exchange rate is determined by the purchasing power parity (PPP) and in the short-term by the interest rate parity (IRP).

2.1.1 The PPP and the long-term equilibrium of foreign exchange rate

Foreign exchange rate is the relative price of two currencies. The actual exchange rate in the foreign exchange market is regarded as a nominal rate (E), which is expressed in the domestic currency price of a foreign currency unit.

Under the assumption of "small open economy", the tradable goods are exposed to the international market but can not influence the international price level. Therefore, the "law of one price" applies to tradable goods: the domestic tradable goods price level (P) equals foreign tradable goods price level (P*) when it is expressed in local currency via the nominal exchange rate (E), deducting costs of tariffs and transportation and so on.

When considering the price levels of different countries, we can calculate the real exchange rate (e), which is expressed as the relative price of domestic and foreign (tradable) goods:

$e = P/P^*$.

Based on this equation, is built purchasing power parity (PPP): nominal exchange rates tend toward the real exchange rates where the domestic and foreign (tradable) goods are equalized, since the goods movement among countries will make $E = P^*/P = e$.

In reality, a lot of goods are non-tradable internationally. Generally speaking, most of the goods of agriculture, mining and manufacturing industrial categories are tradable, but goods and services in other categories like construction, real estate, restaurant and hotels, are non-tradable. The market for tradable goods is brought into equilibrium on an international basis, while the market for non-tradable goods is equated in each country only.

From the viewpoint of international settlement, the balance of payment is equal to the trade balance plus capital account balance, if the accommodating items are not taken into account. When the money supply increases, the domestic price level will rise and the interest rate level will decrease. Therefore the extra domestic demand will only increase the demand for foreign goods of lower price and financial assets with higher interest rate. As a result, an expansion in the money supply would cause more goods inflow and more capital outflow. The excess money supply will be equal to the trade balance deficit plus the capital balance deficit. The deficit of balance of payment can be corrected either by a depreciation of domestic currency or a decrease in the foreign reserves of the central bank (the accommodating items or the below the-line items).

According to Claassen (1996), the money market equilibrium of a small open economy can be illustrated in Figure 2-1. Assume that the demand for money is a linear function of the price level (P) and the real national income is at the full employment level (y_0). The money supply curve is represented by M, and its intersection with the money demand curve (M^d) A is the equilibrium point where the domestic price level is P_0, the foreign price level is P^*_0 and the nominal exchange rate is E_0. Suppose that the money supply increases from M to M_1. At the initial price level P_0, we have:

$$M - M^d = M_1 - P_0 y_0 L(r^*) = (A - y_0) + (B^d - B).$$

Where $M_1 - M^d_0$ is the excess supply of money (a balance-of-payments deficit), $A - y_0$ is the excess demand for goods (a trade balance deficit) and $B^d - B$ is the excess demand for bonds (a capital balance deficit).

When taking non-tradable goods into account, the above money market equilibrium must be modified, the absorption will become the demand for both tradable and non-tradable goods:

$(M - M^d) = (D_T - S_T) + (D_N - S_N) + (B^d - B)$, where

$(D_T - S_T)$ is the excess demand for tradable goods (trade balance deficit), $(D_N - S_N)$ is the excess demand for non-tradable goods. Since in the above equation, non-tradable goods market is introduced, excess supply of money is larger than the balance of payment deficit:

$(M- M^d) > (D_T - S_T) + (B^d - B)$

At the very beginning, the rise in the price of non-tradable goods will push up the general price level, for instance, to P_1, (while E remains at E_0), which will discourage further increase in the demand for non-tradable goods. As a result, the excess supply of money would be CD instead of AB, the balance of payment deficit will be smaller than the case where there are no non-tradable goods, and the M_1 schedule will shift to point C.

However, point C is not the long term equilibrium point, because at this level, the domestic currency has experienced a real appreciation in terms of the increase in the relative price of non-tradable goods, though not in terms of tradable market. As a result, in long-term, the substitution effect in both markets will create an excess demand for foreign tradable goods, which can only be satisfied by more imports, and an excess supply of non-tradable goods will press down their price level. At last, point C will move towards point A and the overall cumulative balance-of-payments deficit will become AB, the same as in the case without non-tradable goods market.

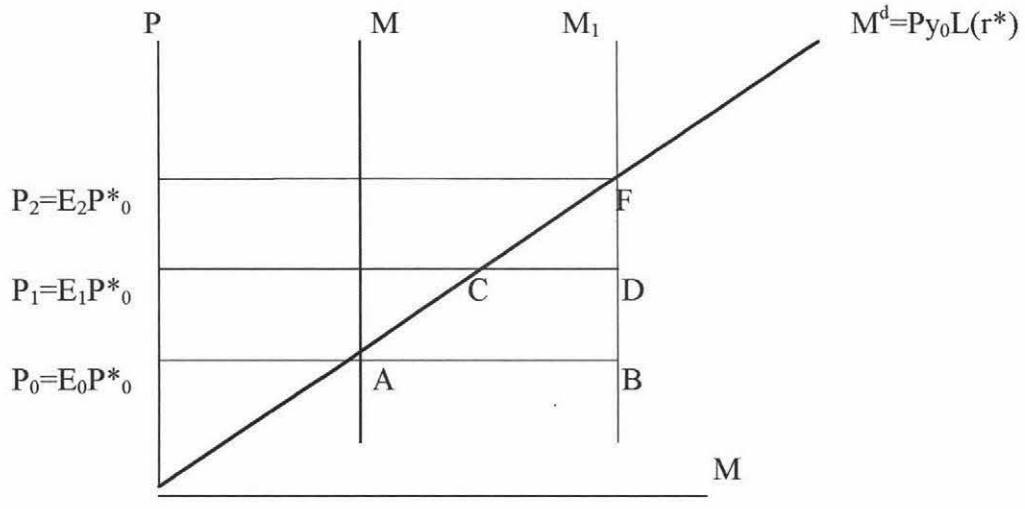


Figure 2-1: A monetary approach for a small open economy

The above model has an imperfection when using P to represent the general price level when both tradable and non-tradable goods are taken into account, because the prices of these two kinds of goods are not so appropriate to calculate together when comparing the purchasing power among different countries. (Salvadore, 1998) In spite of this, the model still reveals

that because of the substitution effect between tradable and non-tradable goods, higher price level of non-tradable goods will also push up the price level of tradable goods, and exert pressure for the domestic currency to depreciate. This point is useful in analyzing the negative effect from the burst of the bubbles in real estates market in the crisis-hit countries, which composes one of the origins of the East Asian crisis.

Because of the above mentioned imperfection of the absolute PPP and its failure in taking into account of transportation cost and other obstructions to the free flow of international trade, the PPP theory is usually used in its relative formulation:

$$E_1 = E_0 P_1 P_0 / P^*_1 P^*_0$$

Where E_1 and E_0 are the exchange rates in period 1 and in the base period respectively. The relative PPP theory says that the exchange rate over a period of time tends to change proportionally according to the relative change in the price levels in the two nations over the same period of time.

Though neither the absolute and relative PPP theories is extensively accepted because of its difficulties in calculating the exact general price level that covering both tradable and non-tradable goods, many economists, for example Salvadore(1998) and Claassen(1996) still consider it as the useful approach in studying the equilibrium of long-term foreign exchange rate. We will also use this theory in assessing the negative effect of the changes in the external competitiveness because of higher wages cost increasing and overvalued real estate market in the crisis-countries, which contributes partly to the collapse of the pegged exchange rate regimes of the crisis countries.

2.1.2 Interest rate parity and the short term equilibrium of exchange rate

Lots of empirical studies have shown that the PPP theory works well in long run, but is not a good guide for short and medium-term exchange rate behavior. (Peter, *et al.* 1994) In the short term, the equilibrium of exchange rate is mainly determined by the interest rate parity (IRP).

According to the monetary approach, domestic and foreign assets are assumed to be perfectly substitutable. Therefore, the return rate on the domestic assets (i) must equal the expected return rate on the foreign assets (i*), given domestic and foreign assets have the same maturity and are exposed to the same default risk. Of course, the foreign exchange rate is very important in determining the final rate of return on foreign financial assets.

Under the uncovered interest rate parity, investors are assumed to be risk neutral here. It means that the investors do not protect themselves in the forward exchange market against the exchange rate risk. According to Claassen (1996) the uncovered interest rate parity can be expressed as:

$$i = i^* + (E^e - E)/E, \qquad (1)$$

Where i (i*) is the domestic (foreign) interest rate, E is the current exchange rate and E^e is the expected exchange rate on the maturity of an asset. If a future depreciation of domestic currency is expected, E^e is higher than E, and the *vice versa*. Equation (1) can be rewritten as

$$E = E^e/(1 - i - i^*) \qquad (2)$$

As in Figure 2-2, at point A, the domestic interest rate equals the foreign interest rate ($i=i^*$), and the current foreign exchange rate equals the expected foreign exchange rate ($E = E^e$); hence interest rate parity prevails. Obviously, three elements can cause a change in the exchange rate: the expected exchange rate, the domestic interest rate and the foreign interest rate.

When the domestic interest rate is different from the foreign interest rate, capital will flow into country with a higher interest rate. For example, if the domestic interest rate is higher, domestic financial assets will become more attractive than foreign ones. Capital will flow into the domestic market, which will eventually cause appreciation of domestic currency. The actual appreciation of domestic currency at present will lead to an expectation, that in the future, domestic currency will depreciate. The reason is like this: the larger inflows of foreign capital would push up the present nominal value of the domestic currency, and

would press down when flow out on the maturity of the assets. Moreover, the higher return rate of domestic assets means that in the future the flow-back capital will be larger than the original, which would lead to larger devaluation of domestic currency if other things being equal.

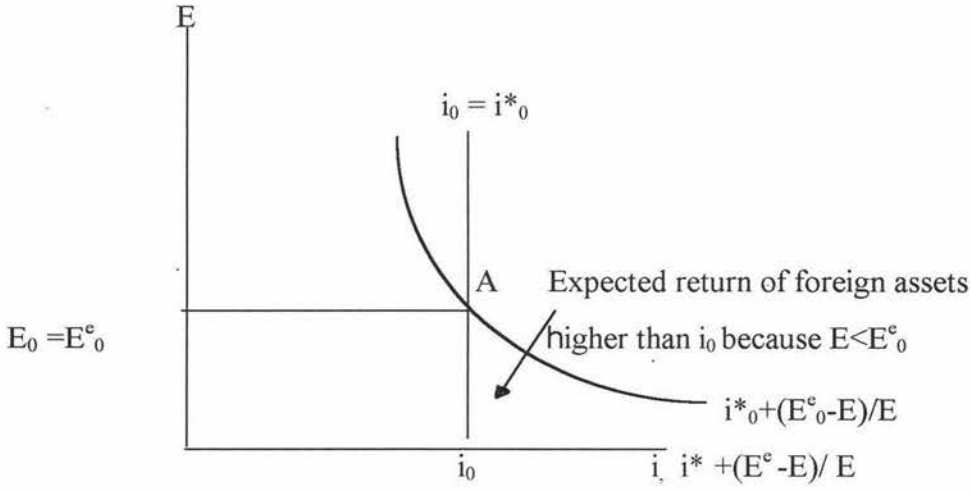


Figure 2-2: The uncovered interest rate parity

2.2 A Portfolio approach to the foreign exchange rate

Formula (2) is based on the assumption that investors are risk neutral and therefore domestic and foreign financial assets are perfectly substitutable. In reality, domestic and foreign financial assets are different to investors in terms of exposure taking. But we will see that the principles of interest rate parity still hold when the term "risk premium (RP)" is introduced to reflect the risk aversion of investors in real world. The asset market or portfolio balance approach assumes that the assets in different countries are not perfect substitutable, and the foreign exchange rate level is determined by the equilibrium of the demand and supply of financial assets in each country.

Since investors are risk averse in reality, they require a higher yield on their investment in foreign financial assets to cover the additional risk-taken. In the operation of international financial market, investors can hedge in the forward exchange market. In this case, it will become covered interest rate parity and the formula (1) becomes

$$i = i^* + (F_0 - E)/E \qquad (3)$$

Where, F_0 (forward exchange rate) replaced E_0. Covered interest rate parity is only useful as a hedging tool, but not in estimating the real interest rate parity and its change. Studies by many economists e.g. Agmon and Amihud (1981) show that the forward exchange rate is not a good predictor for the future spot exchange rate. Moreover, F_0 does not cover other unexpected risks related with investing in foreign market. Therefore, according to the asset market approach, a risk premium (RP) must be added to the formula (1) to make it more realistic:

$$i = i^* + (E^e - E)/E - RP \qquad (4)$$

It means that since investing in foreign financial market involves currency exposure, investors buy foreign financial assets only when foreign assets can provide higher return, which is high enough to compensate home-country residents for taking the extra risk (measured by RP). Clearly, RP represents a cost of holding a foreign asset. It is not a constant, it increases with rising exposures, the higher is the RP, the higher i* (the foreign interest rate) plus $(E^e-E)/E$ (the expected appreciation of foreign currency) is required to cover the cost of RP, so that the investor is different between domestic and foreign assets.

The extended asset market model also considers the elements of national real income, the price level and the wealth of the country. According to this model (Salvadore, 1998), the level of real GDP, prices, and wealth in both the nation and abroad are also likely to be affected by the changes in domestic and foreign interest rate levels, expected appreciation of foreign currency and risk premium. These elements, in turn, will have further repercussions on all the other variables of the model.

3. A comment on the financial approach to the exchange rate

Money movements among countries through economic activities like foreign trade and foreign investment, cause disequilibrium of the international settlement, which provokes the fluctuations of the foreign exchange rate of the country. Therefore, the monetary approach

that based on the study of monetary factors can explain the changes in foreign exchange rate level and also the Asian currency crisis.

Turner and Van't dack (1993) studied the bilateral overvaluations and under-valuations of selected currencies against the US dollar, in terms of the differentials between PPP rates and actual exchange rate in 1960, 1980 and 1990. From Table 2-2, we can see that in 1960, all currencies except the Canadian dollar were undervalued, while in 1980 most currencies were overvalued but the absolute values of differentials were smaller except for the German mark and the Canadian dollar. In 1990, the differentials were further narrowed. We can see a trend for the actual exchange rates to move closer to the PPP since the 1960s. The most important reason underlying this phenomenon might be the mainstream trend of the global integration of the world economy. In the past several decades, more and more barriers of international trade and investment have been removed through bilateral and multilateral negotiations. The international transportation facilities have been greatly improved and become more efficient and less expensive. The foreign exchange market has become very efficient in reflecting any changes in relevant elements. More and more countries have lifted their restrictions on the money flow under their current accounts and capital accounts. Therefore, the monetary approach becomes more and more applicable in analyzing the equilibrium of the foreign exchange rates. The countries in our study are all open-market economies except China, in the sense that China is still maintaining its foreign exchange control on the money flow under its account of capital account. Therefore the monetary and portfolio approaches are used in the study on the Asian currency crisis.

The portfolio approach introduces a currency risk premium to reflect the risk aversion and the abnormal factors. It also links various assets (domestic money, domestic bonds and foreign bonds) to each other in determining the behavior of exchange rates. It makes the model more realistic in application in this study, since the shock from the volatile flow of foreign capitals is one of the most important origins for the collapse of the pegged exchange rate regime and the aftermath financial crisis in the crisis countries.

Because of the difficulties in calculating the purchasing power parity, this study tries to assess the changes in competitiveness of the countries in terms of price level, labor unit cost etc., so as to explain the changes in the long-term behavior of foreign exchange rates.

The study also attempts to compare the interest rate levels among the crisis-hit countries and the advanced countries, and investigate the drives behind the huge inflow of foreign capital in this region during the 1980s and the first half of 1990s and the massive outflow during the currency crisis.

Table 2-2: Bilateral overvaluations and under-valuations of selected currencies with respect to the US dollar: PPP rates (e=EP*/P=1) and actual exchange rates

	1960			1980			1990		
	ppp (1)	actual (2)	(1)-(2) over (2)	ppp (1)	actual (2)	(1)-(2) over (2)	ppp (1)	actual (2)	(1)-(2) over (2)
Germany	3.00	4.17	-28.1	2.37	1.82	+30.2	1.84	1.62	+13.9
France	3.50	4.90	-28.6	5.24	4.23	+23.9	5.82	5.45	+6.9
United Kingdom	0.23	0.36	-37.7	0.49	0.43	+13.3	0.53	0.56	-5.4
Italy	448	621	-27.8	749	856	-11.3	1251	1198	+4.4
Belgium	37.1	50.0	-25.8	36.6	29.2	+25.4	34.7	33.4	+3.8
Netherlands	2.38	3.77	-36.9	2.53	1.99	+27.1	1.91	1.82	+4.9
Spain	31.0	60.0	-48.3	63.6	71.7	-11.2	96.4	101.9	-5.4
Canada	1.07	1.00	+7.4	1.08	1.17	-7.7	1.15	1.17	-1.5
Japan	225	360	-37.4	240	227	+5.7	172	145	+18.8

Source: Turner, P. and Van't dack, J. (1993), "*Measuring International Price and Cost Competitiveness*", Economic Paper no. 39, Basle: Bank for International Settlements, Nov. 1998

Section 3: The Floating and pegged exchange rate regimes

3.1 The mechanism of exchange rate under floating and pegged exchange rate regimes

The mechanism of exchange rate works differently under the floating and pegged exchange rate regimes. Therefore the same factors can create different effects under different exchange rate regimes.

Suppose that the money supply increases:

Under floating exchange rate regime, a larger amount of money supply will push the price level up (under the assumption of full employment) and respectively the nominal exchange rate will rise (domestic currency depreciates), while the foreign price level remains the same, according to the PPP. The nominal exchange rate is adjusted automatically in the market to reflect any inconsistencies between nominal exchange rate and fundamentals (e.g. money supply).

Under the fixed exchange rate regime, the exchange rate is unable to reflect the effect of change in money supply. The excess money supply will become extra demand for foreign goods and financial assets, which will lead to deficit both in trade balance and capital balance. As a result, the deficit of balance of payments need to be corrected by a decrease in foreign exchange reserves, which effectively causes a contractionary effect to the economy. If the central bank wants to avoid further decrease in foreign exchange reserves, it can raise the interest rate to attract capital flows, which will then decrease in the money supply. At last, the money supply will return to its original level.

With the exchange rate fixed, the other economic variables must adjust to changing economic circumstances. Economists call this the automatic adjustment mechanism.

Obviously, under the pegged exchange rate regime, an autonomous monetary policy does not work in the way under the floating regime. The commitment to maintain the current

exchange rate requires the government to keep its monetary condition in accordance with the key currency country.

3.2 The Mundel-Fleming model and the fixed exchange rate regime

Under the fixed exchange rate system that prevailed from the end of World War Two until 1997, industrial nations were generally reluctant to devalue or re-value their currencies even they were in fundamental disequilibrium. Surplus nations enjoyed the prestige of the surplus and the accumulation of reserves. Deficit nations regarded devaluation as a sign of weakness and feared that it might lead to destabilizing international movements. As a result, nations were left with only expenditure-changing policies to achieve internal and external balance. The Mundel-Fleming model gave an explanation to this economic phenomenon by showing that fiscal policy can be used to achieve internal balance and monetary policy can be used to achieve external balance under the fixed exchange rate regime.

As an example, the Mundel-Fleming model is illustrated in Figure 2-3. Here we have three curves:

---The IS curve: Demand for goods/services = Supply of goods/services
---The LM curve: Demand for money = Supply of money
---The BP curve: Trade surplus + Capital account surplus = 0

Let us take E as a starting point to discuss how to reach internal and external balance with the use of fiscal and monetary policies and without affecting exchange rates. At point E in the figure, the economy is in internal and external imbalances, because national income is below full-employment output Y_F ($Y_E < Y_F$) and point E is below the BP curve (BP <0). It means that the balance of payment is in deficit (the domestic currency is relatively overvalued), and the domestic economy is in recession.

In this situation, the government can adopt fiscal policy by shifting IS to right (or up) to IS` to increase government expenditure and/or decrease taxation to resume the internal equilibrium. Meanwhile, it can use tightening monetary policy by shifting LM to the left (or up) to LM` to attract more inflow of foreign capital.

New equilibrium thus can be achieved at point F, where IS`=LM`=BP, and BP = 0 (external balance) and Y = Y_F (internal balance), while BP remains unchanged (exchange rates are fixed).

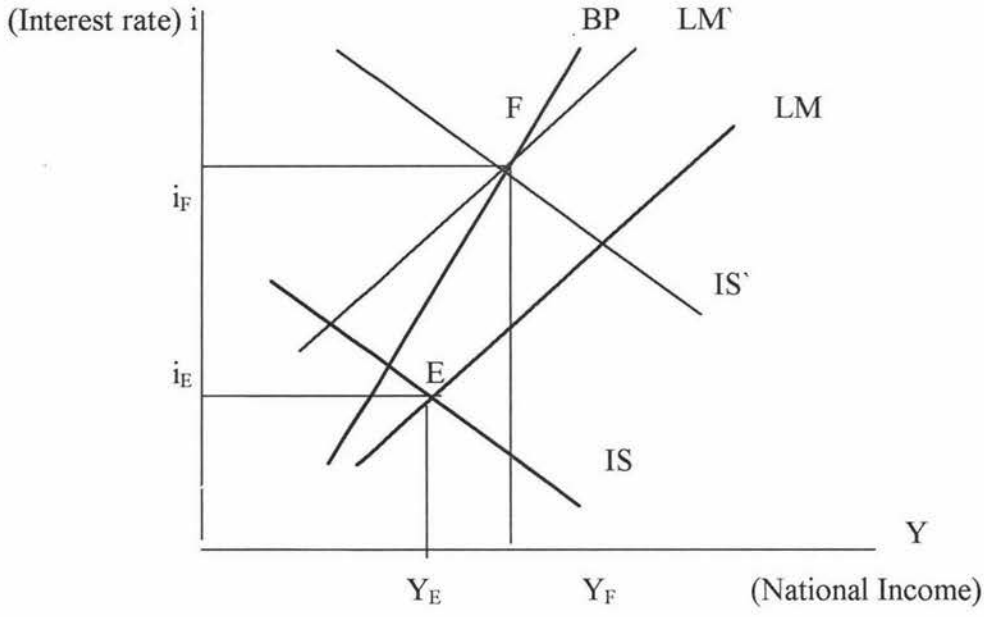


Figure 2-3: Fiscal and monetary policies from internal and external balances

The above example expresses that under the fixed regime, the government can still adopt an expansionary fiscal policy and a tightening monetary policy to reach a new internal and external balance. But this model also tells that the fixed regime does give more difficulties to the government than the floating regime, in enforcing appropriate economic policies, in comparing with the floating regime.

In terms of adjusting the disequilibrium of external imbalance under the fixed regime, the Mundel-Fleming model is in accordance with the monetary approach. When the BP is in deficit, the government can raise interest rate to attract more inflow of foreign capital to avoid depreciation of domestic currency. But as we have discussed in the previous section that larger capital inflows caused by higher domestic interest rate would induce an expectation that in the future the domestic currency would depreciate because of the possible withdrawing of the foreign capital on the maturity of the assets. So raising interest rate is not a policy that the government can use very often in adjusting the external

imbalance. One more question is likely to be asked: since the foreign exchange rate is fixed, how is such expectation of depreciation formed? Under the fixed exchange rate regime, though the government commits to support the fixed exchange rate level, it has not 100% foreign reserves to guarantee that all the issued domestic currency can be converted to foreign currency at the fixed exchange rate level. The sustainability of the fixed exchange rate regime depends mainly on the market confidence in the liberalized opened economy. If the market becomes too concerned about the deteriorating situation of the balance of payment and doubtful of the ability of the central bank in supporting the current fixed rate, the pegged regime would be in real danger. In such cases, what the government can do is either to raise domestic interest rate to compensate the higher currency risk taken by foreign investors or to defend its currency by selling foreign reserves. If the interest rate is not high enough to attract foreign capital and deter further speculative attacks, and the government fails to strengthen the market confidence on the domestic currency, it will eventually exhaust its foreign reserves and end up with the currency to be allowed to float. When the market expects an appreciation of the currency, massive buying force would require the government to either lower domestic interest rate or buy foreign currency. Both of the actions would cause increases in the money supply and high inflation rates.

Expectation on the future exchange rate level is also very important in determining the equilibrium of foreign exchange rate under the floating regime. But it does not give the same pressure to the government since it does not have any commitments on the exchange rate level. Under the floating regime, as long as the market expects a depreciation of one currency, massive selling force would press down the exchange rate in the market immediately. When the market expects an appreciation of the currency, massive buying force would require the government to either lower domestic interest rate or buy foreign currency. Both of the actions would cause increasing in money supply and high inflation rate.

From the Mundel-Fleming model, we can still draw a useful implication that if the nation can successfully attract more foreign direct investment instead of short-term private capital, the expectation of future depreciation of the domestic currency might be lowered. Since foreign

direct investment tend to stay in the countries for long term, not as volatile as short-term foreign capital. This point is also useful in our study.

3.3 The characteristics of floating and fixed exchange rate regimes

The mechanism of foreign exchange rate determines the different characteristics of floating and pegged exchange rate regimes.

3.3.1 The stability of the exchange rate

An exchange rate is a kind of price. Under the floating or flexible system, an exchange rate is determined by supply and demand. As the demand for a currency increases relatively to supply, that currency will have a pressure to appreciate, whereas currencies in which the quantity supplied exceeds the quantity demanded will have a pressures to depreciate. Since there are too many factors, which can influence the demand and supply of the market, the exchange rate can be very volatile, which is not good, and sometimes even hazardous to activities of international trade and investment.

Under the pegged regime, the domestic and international prices of goods and services keep comparatively stable, the importers and exporters suffer less from daily market fluctuations. It provides a support to the growth of international trade as well as economic development. (Eiteman, 1995) But the pegged exchange rate is unable to reflect the daily changes in fundamentals. Some discrepancy between the pegged level and the fundamentals might accumulate and eventually would hurt the sustainability of the pegged regime, bring larger currency exposure to the investors as well as the economy as a whole. The collapse of the pegged regime would normally cause substantial damages to the whole economy and substantial losses to individual investors. That is why people would fall into panic when the collapse of the pegged regime is likely to happen.

A long running pegged regime can produce an illusion that the government would guarantee maintaining the pegged exchange rate level. This illusion makes the domestic borrowers careless about the currency exposure in their acquiring foreign liabilities. Without worrying about currency risk, borrowers would not hedge their risks in forward market like what is

done by a prudent borrower facing the risks. When the foreign interest rate is lower, uncovering the deals would lower the cost of foreign borrowing, but would also lead them to over-borrow and thereby fueling surges in foreign capital inflow. When the collapse of the peg becomes no longer an expectation but a reality, the domestic borrowers would suffer badly from the substantial increase in the foreign currency nominated debt, which is caused by sharp depreciation of domestic currency. The debt servicing difficulties would hurt the financial sector and in many cases, lead to a banking crisis. That is why a currency crisis is always followed by a banking crisis. We will have an in-deep analysis on the typical case in the Asian crisis in the following chapters.

3.3.2 Disciplines of the fixed and floating exchange rate regimes

A floating rate brings a self-adjusting effect to the economy. Under the floating exchange rate regime, when the fundamentals of a certain country get worse, demand for foreign goods and assets might increase, causing depreciation in the value of the domestic currency. Lower value of the domestic currency will enhance the attractiveness of domestic products and financial assets in the international market, which will gradually improve the fundamentals of the economy and stabilize the domestic currency exchange rate level. Therefore, the country can follow its own domestic macroeconomic policies, which is independent from that of other countries. If the economy is experiencing high unemployment rate, insufficient aggregate demand, the government can just carry out an expansionary monetary and fiscal policy--increasing government expenditure, cutting taxes, increasing monetary supply and lowering interest rate, which would normally cause currency to depreciate. But some problems may happen if the government is not disciplined enough. Since the government does not have the responsibility to maintain the existent exchange rate level, the government may misuse the fiscal policy by spending too much money without the restriction from the exchange rate.

In some advanced countries like Germany and New Zealand, this problem has been well recognized and serious attention is paid. For example, in New Zealand, the Reserve Bank Act of 1989 stipulated that a policy target agreement (PTA) is to be signed between the Minister of Finance and the Governor of the central bank -- Reserve Bank of New Zealand

(RBNZ) when he is appointed or re-appointed. The agreement would require that the operational policy of the Reserve Bank must target reflecting stability of the general level of prices. For example, the PTA of December 1992 specifies that the RBNZ should keep one-year Consumers Price Index (CPI) inflation rates within the range of 0-2 percent. (McCallum, 1995) Such measures can avoid the shortcoming of the floating exchange rate regime and restrain the government from irresponsible expanding the economy.

Undoubtedly, a pegged exchange rate system can itself force the government authority to follow strict monetary and financial disciplines. Under the pegged regime, if the government carries out an inappropriate expanding policy, the external competitiveness of the country will become worse, the attractiveness of domestic goods and financial assets will decrease and possibly lead to current account deficit and capital account deficit. But the countries that choose the pegged regime have to pay an opportunity cost. The reasons are as follows:

The government has to follow the monetary policy of the key currency country in order to experience the similar interest rate and inflation rate to maintain the appropriate balance of the capital flows. In case that the economy is not in the same stage of the business cycle of key currency country, the government would find itself in an awkward situation. It is not able to make appropriate economic policies, which fit its economic situation. For example, if the US dollar which is the key currency of country A, was deflating at a higher rate than that country A desired, the lower deflating rate followed by country A would lead to a pressure for depreciation of the A's currency against the US dollar. For maintaining the pegged exchange rate with the US dollar, the central bank of country A has to sell the US dollar and at last push up the domestic interest rate. Obviously if the economy A is in recession, it would be a great burden for the government to follow the US in increasing interest rate level. Though country A can choose to follow the monetary policy of the US, while enforcing an expansionary fiscal policy according to the Mundel-Fleming model, the contradictory economic policies would make the target more difficult to reach.

3.3.3 Requirements for the volumes of international reserves

Under the floating exchange rate regime, the government does not have any commitment to maintain the level of market exchange rate, and dose not need to have a large volume of foreign exchange reserves for intervening in the exchange market.

Under the pegged exchange rate regime, the government is committed to maintaining a exchange rate at a certain level or within a certain range. Therefore, the central bank has to maintain a large volume of international reserves to counter attacks against international speculators and take actions in defense of its currency when necessary. Keeping a large volume of foreign exchange reserves is a kind of resources wasting, especially to developing countries, which are demanding more foreign capital in their economic development. For example, according to the China Statistics Bureau (1998), China has utilized foreign capital including foreign loans and direct foreign investment by USD 61 billions in 1997, but at the same year, it increased its foreign reserves by USD 35.7 billions. China has invested most of its foreign reserves in foreign government bonds, of which the interest rate is normally lower than that China pays for foreign borrowing (at least it will lose the spread of bid and offer prices of money). If China did not need to maintain the pegged exchange rate regime of RMB and the Hong Kong dollar, China would not need to keep so much foreign reserves and could have invested more in its domestic economic development.

Unlike floating rates, pegged rates are normally rigid in a certain period of time. If the great inconsistency between the current foreign exchange rate level and the fundamentals becomes noticed in the market, people would expect a big adjustment on the pegged level or an abolition of the pegged regime, which would cause a big shock to the economy. If the government can not change the market expectation about the domestic currency depreciation, capital would keep fleeing out from this country.

In the present time, the international financial market is full of private capitals, which flow worldwide, seeking high profit investment opportunities. Some of these capitals not only passively seek existing opportunities, but also actively create. "Hedge funds" has become a

nickname of international speculators in the international financial markets because of many hedge funds had played an important role in the East Asian currency crisis.

A hedge fund normally is a private investment limited partnership, which pools capital from limited partners together and invests in a variety of securities. Thought "hedge" normally means a conservative investment strategy, most of the hedge funds operate very aggressively and speculatively. They follow some sort of trading strategy and can use any financial instrument they wish. Since hedge funds are private entities, their operations are out of the usual governance in most of the developed countries. Some hedge funds like Quantum Fund and Tiger Fund would target at an economy as a whole. They organize a group of top economists to study the macroeconomic situation of a certain country. If they find big inconsistency between the currency value or stock market price level and the fundamentals of the economy, they will take actions in the market to make or enforce a big correction and grasp a huge profit. These hedge funds control a huge amount of capital and have a very strong financing ability. Through leverage at 2:1 or over, they can raise enormous amount of money in a very short period of time. For example, Long Term Capital Management (LTCM) which was found in financial trouble last October, had maintained an investment portfolio of USD100 billions in value while its own capital is only USD3.4 billions. They are so strong in finance that many central banks, even like Bank of England, feel it a headache to deal with these kinds of international speculators. Therefore, when the pegged exchange rate level is found in serious discrepancy with fundamentals, it might face heavy speculative attacks in the market. The speculators attack the pegged regime by borrowing and then selling this currency in the hope that they can make a huge profit from market crash when the central bank eventually stops defending its currency and lets it float.

Under the pegged exchange rate system, the central bank acts in the market as the "market maker" or the "lender of the last resort", buying or selling at the official rate or within a certain range of the rate. With a big and growing size of the international foreign exchange market, it is getting more and more difficult for the central banks to defend their currencies when being attacked by those speculators. To defend its currency, government has to sell foreign exchange reserves and buy its own currency in the foreign exchange market, which

would normally cause extremely and unbearable high interest rate. As Krugman (1993, p33) said: " a government attempting to keep its currency from depreciating may find its foreign reserves exhausted and its borrowing approaching a limit. A government attempting to prevent it from appreciating may find the cost in domestic inflation unacceptable."

4. The characteristics associated with countries choosing different exchange rate regimes

Many studies have shown that there are systematic differences between countries choosing to peg their exchange rate and those choosing to let their currencies float in the market. According to Melvin (1995), these different characteristics mainly include the following.

4.1 Country size in terms of economic activity or GDP

Larger countries have a stronger ability to tolerate shocks from daily fluctuation of foreign exchange rate. Therefore larger countries tend to be more independent in dealing with the domestic economic problems and less willing to subjugate domestic policies with a view toward maintaining a pegged rate of exchange with foreign currencies.

Larger countries have a larger domestic consumption market, and foreign trade tends to be a smaller fraction of their GDP, and thus they are less attuned to foreign exchange rate concerns than smaller countries.

4.2 Openness of the economy

Openness of the economy means the degree of dependency on international markets. A more open economy has a greater fraction of internationally tradable goods in its GDP, and hence the greater is the impact of exchange rate changes on the national prices level. So, a more open country tends to choose a pegged exchange rate so as to minimize shocks from exchange rate to the domestic price level. But on the other hand, more open economies have less restrictive control on goods/services and capital flows, which makes such countries more difficult to maintain a pegged exchange rate facing the large scale of inflow and outflow of international hot money.

4.3 Tendency of inflation

Countries tending to carry out a higher inflation rate policy than key-currency countries are difficult to maintain the pegged exchange rate system. Currencies with a higher inflation rate tend to depreciate in long run as is implied by the PPP theory. Under the floating rate, such a depreciation pressure can be adjusted gradually at short intervals. Under the pegged system, such a depreciation pressure is normally alleviated by a higher interest rate. But as was implied by the IRP theory, in the long term, the difference in interest rates between two countries will accumulate the pressure of depreciation for the domestic currency and possibly attract attacks from international speculators.

5. Factors underlying the shifting trend from pegged to floating exchange rate regimes

As was indicated in Table 2-1, during the past two decades, there has been a trend of shifting from pegged to floating exchange rate regimes in both developed and developing countries. According to one study by IMF (1997), factors underlying this trend include:

5.1 The great fluctuation of key currencies

In the past two decades, the great devaluation or appreciation of some major currencies entailed too low or too high a value for other pegging currencies. Since the countries were not able to maintain their economic fundamentals in accordance with the key currency country, a sharp appreciation of the key currency might mean a big over-valued of theirs. In these cases, the countries have to abolish their pegged exchange rate regimes.

5.2 The accelerating inflation in many developing countries

Higher inflation rates will force a country to devaluate its currency so as to maintain its competitiveness in international markets. If the country can not maintain its inflation rate the same as the key currency, the peg exchange rate regime is difficult to maintain in a long run.

5.3 The external shocks

More and more countries realize that for accelerating economic development, introducing foreign capital is necessary and therefore they have to promote an outward-oriented economy, and a floating exchange rate is normally regarded as an important part of outward-looking policies toward trade and financial flows. However, foreign capital can be a two-edged sword, and misuse and bad governance of foreign capital would make the economy more vulnerable to external shocks.

External shocks, such as fluctuations in international trade markets, sharp interest rate increases or decrease in major developed economies or speculative attacks etc., usually cause difficulties in balance of payments which were managed partly through exchange rate adjustment. When these kinds of difficulties have grown to such an extent that the government has to let their currency float in the exchange rate market, currency crisis would happen.

Currency crisis not only happens in developing countries but also in developed countries. For example, the currency crisis happened in European Monetary System in 1992 to 1993 had forced British Pound and some other European currencies depreciate sharply. Since emerging market economies are relatively small in their size, more fragile in their financial sectors, currency crisis often induces banking crisis and foreign debt crisis, which would usually bring in more serious shocks to their economic growth and assets prices. In 1990s, we have seen Mexican peso crisis in 1994-95. The recent Asian currency crisis is just another example.

Section 4: Conclusion

In the present time, economic globalization has become the mainstream trend and many countries, including most of the crisis-hit countries in our study have removed most of the restrictions on foreign trade and capital flows. Foreign exchange rates have become a market phenomenon, which is determined mainly by the market forces of demand and supply in the foreign exchange market. The changes in the demand and supply of a currency are usually

the consequences of money flows among different countries, which are caused either from transactions under current account or capital account. So the monetary approach that based on the study of monetary factors is mainly used in this study to analyze the origins of the Asian financial crisis.

The absolute PPP theory regards that the real foreign exchange rate of a currency is determined by the relative prices between two countries. The relative PPP theory, which is regarded as more realistic in application, says that the exchange rate over a period of time tends to change proportionally according to the relative change in the price levels in the two nations over the same period of time. We will use the PPP theory to study the changes in the labor costs in the crisis countries in the past one decade, comparing with that in major developed countries like the US, Japan and Germany, to explain the changes in the external competitiveness of these countries.

The IRP theory considers that the foreign exchange rate of a currency is determined by the relative interest rates among countries. Money tends to flow to the country with a higher interest rate and push up the market value of the currency of this country, which is expected to depreciate in the long run. The reason is because that the flowed-in foreign capitals attracted by the higher domestic interest rate are likely to withdraw on the maturity of the assets.

The portfolio approach introduces a risk premium to reflect the risk aversion and the abnormal factors and also links various assets (domestic money, domestic bonds and foreign bonds) to each other in determining the behavior of exchange rates. It makes the model more realistic in application. This study will use it in examining the effects of the changes of the interest rates on the equilibrium of the foreign exchange rates in the crisis countries.

The mechanism of foreign exchange rates determines the different characteristics of the pegged and floating exchange rate regimes.

Under the pegged regime, the exchange rate is stable in a certain period of time, which is helpful in promoting the activities of foreign economic trade and investment. But the rigidity

of pegged exchange rate is not able to reflect the daily changes in the fundamentals of the economies and therefore is likely to accumulate the discrepancy between the exchange rate and the fundamentals and lead to collapse of the peg. To successfully maintaining the pegged regime, the government must maintain their economic policies especially the monetary policy roughly in accordance with the key currency economy, properly guide the flows of capitals and maintain a large foreign reserves to support the peg. In the past several decades, as the globalization of economy becomes a mainstream trend, more and more countries have shifted their foreign exchange rate regimes to the floating because of a series of internal and external factors, which make it more difficult to maintain a peg.

Chapter 3

A Narrative Account of the Asian currency crisis

Before conducting an analysis on the origins of the Asian currency crisis, let us have a review on the glorious history of economic development of this region in the past two decades and the background of this currency crisis.

Section 1: The East Asian miracle

In the past several decades, many East Asian countries and regions, including Japan, China, Singapore, Taiwan Province of China, Hong Kong, Korea, Thailand, Malaysia, Indonesia, Philippines, had achieved outstanding economic growth in comparison with the average level of the world economy, advanced economies and developing countries. (Table 3-1) The ascendancy of the East Asia in the world economy had won this region a reputation of "East Asian miracle" which had become one of the popular topics in economic literatures. In *The East Asian Miracle: Building a Basis for Growth* (1994), the World Bank undertook a major comparative study of economic growth and public policy in the East Asia, and praised this region as having sound economic fundamentals: "Macroeconomic performance was unusually stable, providing the necessary framework for private investment. Policies to increase the integrity of the banking system and make it more accessible to non-traditional savers increased the levels of financial savings. Education policies that focused on primary and secondary education generated rapid increases in labor force skills. Agricultural policies stressed productivity change and did not tax the rural economy excessively. All of these economies kept price distortions within reasonable bounds and were open to foreign ideas and technology." (Page, 1994, p2)

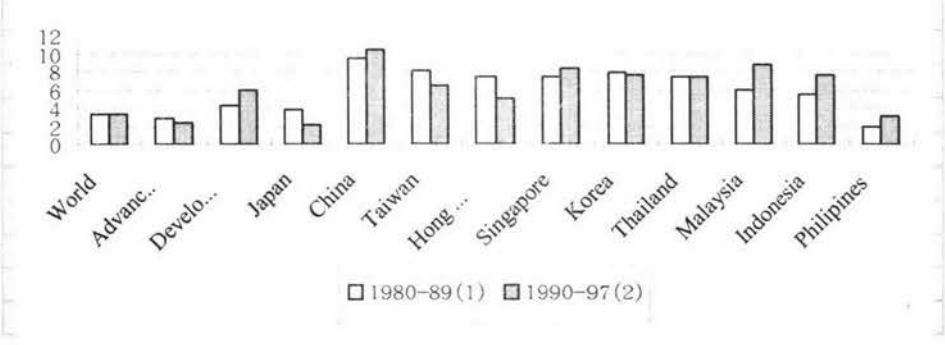
Some economists doubted the sustainability of the high economic growth of the East Asia. Among them, Paul Rugman (1994) argued that the rapid growth of the East Asian economies came mainly from the mobilization of additional labor, capital and other resources, and little from the growth of total factor productivity. This meant that such

growth would taper off as diminishing returns set in at some point. Though this view received a lot of criticism by other economists, (e.g., Drysdale and Huang (1997)), the region unfortunately run into serious trouble in mid-1997, as was predicted by Krugman. Though it is not the main purpose of this study to answer such question like whether the problems of the East Asian countries were exactly what was indicated by Krugman, we can still find some connections between the present currency crisis and the past rapid development.

Table 3-1: Real GDP Growth Rates of Selected Areas and Countries (%)

	1980-89(1)	1990-97(2)	1990	1991	1992	1993	1994	1995	1996	1997
World	3.3	3.2	2.6	1.8	2.6	2.7	3.9	3.6	4.1	4.1
Advanced Economies	2.9	2.3	2.7	1.2	1.9	1.2	3.1	2.5	2.7	3
Developing countries	4.3	5.91	4	5	6.6	6.5	6.8	6	6.6	5.8
Japan	3.8	2.13	5.1	3.8	1	0.3	0.6	1.5	3.9	0.9
China	9.5	10.28	3.8	9.2	14.2	13.5	12.6	10.5	9.7	8.8
Taiwan	8.1	6.4	5.4	7.6	6.8	6.3	6.5	6	5.7	6.9
Hong Kong	7.3	5.05	3.4	5.1	6.3	6.1	5.4	3.9	4.9	5.3
Singapore	7.3	8.35	9	7.3	6.2	10.4	10.5	8.7	6.9	7.8
Korea	7.8	7.45	9.5	9.1	5.1	5.8	8.6	8.9	7.1	5.5
Thailand	7.3	7.36	11.6	8.1	8.2	8.5	8.6	8.8	5.5	-0.4
Malaysia	5.8	8.68	9.6	8.6	7.8	8.3	9.2	9.5	8.6	7.8
Indonesia	5.3	7.64	9	8.9	7.2	7.3	7.5	8.2	8	5
Philipines	1.9	3.1	3	-0.6	0.3	2.1	4.4	4.8	5.7	5.1

(1) Ten-year averages (2) Eight-year average



Source: The World Economic Outlook, International Monetary Fund, 1998

Section 2: The Asian Currency Crisis

The summer of 1997, was a nightmare to the Southeast Asian countries. People fell into a panic when they found that their wealth diminished sharply overnight: the currency crisis started.

2.1 The currency crisis started in Thailand

Thailand had enjoyed rapid economic growth during the 1980s and the first half of the 1990s. From 1990 to 1995, Thailand had maintained annual growth rate at 8.1% to 11.6% (Table: 3-1), which earned her the reputation of a new "little tiger".

Since the mid-1980s, Thailand had been pegging its currency to a basket of foreign currencies. But instead of setting the proportion of each currency according to the percentage of its trading partners, Thailand pegged its baht to the US dollar practically, which made the basket pegging become one currency pegging. This regime had been working for so many years, along with the rapid economic growth of Thailand.

But in 1996, the economic growth obviously slowed down, current account deficit widened. In the February of 1997, the rumors run rampant in the foreign exchange market that baht could be forced to devaluate because of the continuing slump in exports in early 1997. Domestic and foreign investors were also losing their confidences in the administrative ability of the Thailand government in dealing with the deteriorating economic situation. The foreign exchange dealers began selling a huge amount of baht for purposes of hedging or speculation. The central bank of Thailand had to actively intervene in the market. Thai baht was temporarily stabilized after Thailand central bank sold US$2 billion in the market.

But in the early May, the market sentiment became worse. On 12th of May and the following several days, the exchange rate of baht against the US dollar fluctuated again unusually, once it fell to 26.6 baht/USD. The central bank of Thailand, cooperated by Singapore and Hong Kong financial authorities, intervened in the Asian foreign exchange market to support the exchange rate of Thai baht, and sharply raised the interest rate to warn further speculative attacking. The banks were not allowed to lend baht to offshore speculators, a means by which temporarily isolated the onshore market from the offshore market. These three counter measures temporarily stabilized the baht exchange rate and defeated the offshore speculators.

In June, the rumors about the resignation of Finance Minister were confirmed and induced a stronger expectation of the Thai baht devaluation. As a result of underselling of the baht in big quantities, the Thai baht exchange rate dropped to around 28 baht/USD and the Thailand stock market fell sharply fell by 4.48%, the Stock Exchange of Thailand (SET) Index went down to 461.32 which was the lowest in 8 years.

After paying the cost of US$ 5 billion foreign exchange reserves, on the second of July, the Thailand central bank was forced to abolish the pegged exchange rate regime, which had been in place for 14 years. On the same day, the Thai baht depreciated sharply by 20%.

2.2 Contagion to Indonesia

Indonesia had had a relatively better condition in terms of economic growth, inflation and current account deficit, but the fragile and weakly supervised financial sector, the highly indebted corporate sector and the high external debt made it the second target of speculative attacking.

The Indonesian rupiah had been pegged to the US dollar but allowed to float in a wide band. In doubt of the sustainability of the existing pegged exchange rate regime, in mid-August the Indonesian government was forced to stop the band intervention and allow the rupiah to float in the market freely. To defend the rupiah from further depreciating, the authority tightened up the monetary policy by raising interest rate to a very high level as hundreds percent, in the hope that high interest rate would increase the cost of shorting the rupiah. But the extremely high interest rate gave strong shock to domestic business operation, and in late August, the authority had to lower the interest rate. In doubts about the abilities of the government to reform its financial sector, liberalize the economic and trade (including the abolition of market monopolies and restrictive market arrangements), to calm down the political uncertainty, and restructure the large private corporate debt, the market was still pessimistic in the rupiah. Facing the stronger and stronger selling pressure in the market, the exchange rate of the rupiah came down gradually, and in the late 1997 and early 1998, the rupiah veritably collapsed, along with the sharp fall of Korean won. The rupiah exchange

rate sank to its lowest in history at about 17000rupiah/USD in late January, and depreciated for more than 80% since the currency crisis started.

2.3 Contagion to Malaysia and Philippines

The continuing withdrawing of foreign capital in Malaysia deteriorated the situation of property market and stock market, and made the Malaysian corporate sector more dependent on domestic bank financing. At the beginning of the currency crisis, the Malaysian government had also tried to defend its currency the ringgit by selling foreign exchange reserves. It was reported that only during the first two weeks of July 1997, the central bank of Malaysia sold USD2 billions (12.5% of its international reserve) to support the ringgit. (*BT Online*, 23-07-97) But facing the strong selling pressure, the Malaysian government realized that it was impossible to maintain the pegged exchange rate regime any longer and chose to let the ringgit to float. In worrying on the damage to its business sector, the Malaysian authority did not tighten up monetary policy as much as its neighboring countries.

Among the countries that have been hit in the currency crisis, Philippines has the best economic fundamentals. From the table 3-1, we can see that the years before the crisis, the Philippine economy was still growing strongly compared with other countries. But the fleeing out of capital also led to the abolition of its pegged exchange rate regime in July and the peso sharply devaluated against the US dollar by 11.6%, touching the lowest in 8 years.

2.4 Contagion to Korea

As Southeast Asian currencies collapsed one after another, the currency crisis spread to Korea. By 1995, Korean economy had grown to be the eleventh largest economy in the world. But the rapid economic growth had also produced some serious problems. Many Korean big corporations had been over-expanded in the late 1980s and early 1990s, pushing their debt/equity ratios to a very high level, even as high as 500%. (BIS, 1998) For further expanding banking credit, the Korean banking sector had been heavily dependent on foreign short-term inter-bank credit arrangements. When the economic growth slackened in 1996 and 1997, the large industrial conglomerates and banking sector became much more

vulnerable to shocks from international financial market. Currency crisis in Southeast Asian countries caused substantial net capital outflow, which immediately increased the numbers of bankruptcies of huge companies and banks, like Hanbo, Sammi and Kia and so on. The bankruptcies of these conglomerates put the banking system into a veritable trouble. The spate of bad loans sank the international credit standing of the Korean financial institutions and curbed their overseas borrowings. The ensuing foreign-exchange shortage, along with increasing jitters about a frontal assault from international currency speculators, pulling down the value of won, despite aggressive supporting intervention from the government.

On 19th August 1997, the exchange rate of the Korean won dropped to 901WON/USD, the lowest since March 1987 when Korea adopted the new pegged exchange rate regime. In the following several months, the market gradually lost their confidence in the Korean government to cope with the economic troubles and maintain its peg. Korean won was dragged into deep crisis. At the end of 1997, the panic selling pressed down the won to as low as 2300WON/USD, which also brought a new wave of shocks back to other Asian crisis currencies and made them touch the lowest levels in this currency crisis, as was shown in Figure 3-2.

Even the New Taiwan dollar, the Hong Kong dollar and the Singapore dollar received strong shocks and depreciated in different percentages involuntarily, though all of these countries or regions held a large amount of foreign exchange reserves. By the end of 1997, the Thai baht devaluated over 50%, the Indonesia rupiah 84%, the Malaysia ringgit about 45%, the Philippine peso over 40%, the Korean won about 58%, the Singapore dollar also devaluated by about 20%, and the Taiwan dollar 20%. The huge depreciation in the currencies also led to a sharp decline in the assets markets and threatened the financial systems and the real economies of these countries. (Table: 3-2)

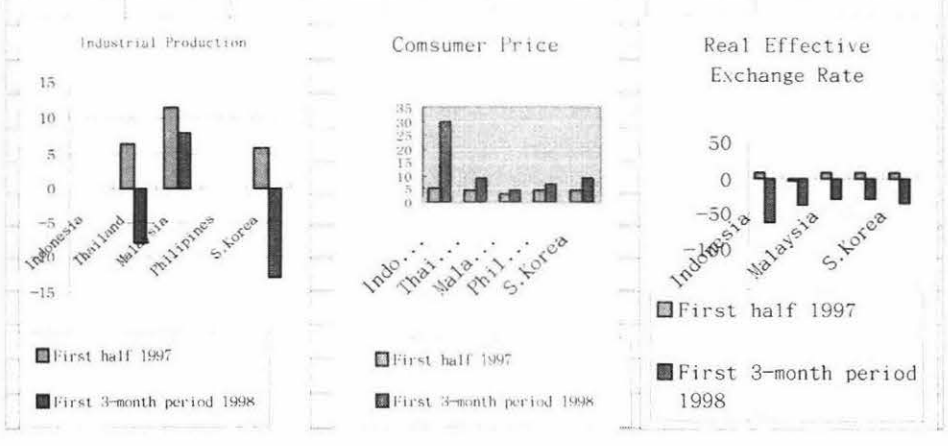
The currency crisis had also put pressure on the Hong Kong dollar. Hong Kong was a substantial lender to banks and companies in the nearby troubled countries. Aftermath banking crisis in these countries fueled concerns that the banks in Hong Kong could be trouble. Hong Kong consequently raised short-term interest rates, causing a panic in Hong

Kong stock market. Fortunately, Hong Kong has huge foreign reserves and has been able to defeat speculative attacks on HK dollar time to time.

Table 3-2: Short-term impact of currency crisis in Asian

	Industrial Production		Consumer Prices		Real effective exchange rate	
	First half 1997	First 3-month period 1998	First half 1997	First 3-month period 1998	First half 1997	First 3-month period 1998
Indonesia			5	29.7	7	-64.4
Thailand	6.4	-7.8	4.4	8.9	-2.9	-38.7
Malaysia	11.5	7.8	2.8	4.3	7.2	-29.8
Philipines			4.6	7	7.7	-28.3
S.Korea	6	-13	4.4	9	7.2	-35.6

note: Percentage change vis-à-vis the same period of the preceding ye Real effective exchange rate are in terms of relative consumer prices. An increase indicates an appreci



Source: Bank for International Settlements, The 68th Annual Report 1998.

Though the Hong Kong dollar has been still pegged to the US dollar, Hong Kong economic fundamentals have been forced to take painful adjustment through big correction in the stock market and property market under the speculative attacks. Heng Seng Index fell from 16000 in mid 1997 to around 6500 in August 1998 and the Hong Kong property price level had also fell for about 50% during the same period.

Currency crisis is only a beginning of the disaster to these crisis-hit countries. Following this, are further slowing down of economic growth, higher inflation rates, more bankruptcies of banks and big companies and so on.

Chapter 4

An Analysis On The Origins And Causes Of The Asian Currency Crisis (1)- The Deterioration Of Competitiveness

Section 1: The vulnerabilities of the East Asian economies

As was shown in Chapter 3, the East Asian crisis happened when substantial amount of capitals flowed out of the countries in short period of time. It reflects the loss of the market's confidence in the economies because of some problems.

The dependency on international market and the export stagnation

The export-oriented model of economic development had contributed the high growth rates in the East Asia. As was shown by the indicators in Table 4-1, it is noticeable that in the past two decades, the exports had grown much faster than GDP in nearly all of these countries. Thus the ratios of exports over GDP (Table 4-2) had maintained rather high and increasing in these countries. It shows that much of the growth impetus of these countries had been coming from overseas market. Undoubtedly, the nature of the export-oriented model of economic development of these Asian countries determined that their economies were more vulnerable than other countries like China, which has a vast and growing domestic market, to any changes in the international market.

The dependency on international market makes the East Asian countries more vulnerable to the changes in the demands of international market. In 1996, the world trade volume growth slowed down sharply from 9.5% in 1995 to 6.6% (IMF, 1998), which directly hurt the exports of the export-oriented economies like Thailand and South Korea.

The cyclical stagnation in some industries in the international markets also hit these countries. For example, the sharp cyclical downturn in world semi-conductor demand in 1996 and 1997 had given strong shocks to many East Asian countries, which had built a

massive production capacity. The slowdown of export growth made it more difficult for the companies to repay their loans, especially foreign loans.

Table 4-1: Growth of GDP, GNP per capita and Exports of Selected Countries

		GDP growth rate(%)	GNP per capita growth rate(%)	Exports growth rate(%)
Thailand	1975-85	6.4	3.8	9.5
	1986-96	9.6	7.9	15.4
	1995	9.2	8.2	14.8
	1996	6.4	4.4	2.4
Indonesia	1975-85	7	4.3	-1
	1986-96	7.8	6.1	8.9
	1995	8.2	5.7	8.6
	1996	7.6	5.8	6.3
Malaysia	1975-85	7.1	4.1	8.2
	1986-96	8.7	6.1	14.6
	1995	9.5	6.8	19
	1996	8	5.8	10.7
Philipines	1975-85	2.9	0.3	7.6
	1986-96	3.2	1.3	8.8
	1995	4.8	2.6	12
	1996	5.7	4.5	20.3
South Korea	1975-85	7.5	5.6	11.7
	1986-96	8.1	7.1	10.8
	1995	9	7.4	24
	1996	7.1	5.6	14.1
Singapore	1975-85	8	6	12
	1986-96	8.9	6.8	13.9
	1995	8.8	5.8	14.9
	1996	6.9	5.6	
China	1975-85	8.6	7.1	17.2
	1986-96	10.1	8.7	13.4
	1995	10.7	9.1	9.6
	1996	9.9	8.9	
Mexico	1975-85	4.6	1.7	11.7
	1986-96	2.8	0.7	8
	1995	-6.2	-9.3	33
	1996	5.9	4.7	-18.9

Source: World Development Indicators 1998 CD-ROM, World Bank

Table 4-2: Growth, Inflation, Investment, Saving of Selected Asian Countries

		Consumer price index	Gross domestic investment /GDP	Export of goods & services/GDP	Gross domestic savings/GDP	Gross national savings/GDP
Thailand	1975	5. 3	26. 7	18. 4	22. 1	22. 7
	1986	2. 4	28. 2	23. 2	25. 5	24. 2
	1995	5. 7	42. 3	41. 7	36. 2	34. 4
	1996	5. 8	41	38. 6	35. 3	33. 2
Indonesia	1975	19. 1	23. 7	24	26. 6	
	1986	4. 7	26. 1	23	28. 6	
	1995	9. 4	31. 1	26. 4	32. 3	24. 7
	1996	8	31. 8	26. 2	33. 2	25. 6
Malaysia	1975	4. 5	25. 3	43. 7	25. 8	22. 5
	1986	0. 3	27. 6	54. 9	32. 7	25. 6
	1995	5. 3	40. 6	95. 5	37. 2	32
	1996	3. 5	41. 2	92	41. 9	36
Philipines	1975	9. 2	32. 9	19. 3	26. 9	27. 7
	1986	0. 8	16	26. 3	29. 9	19. 3
	1995	8. 4	24	40. 5	15. 2	19. 3
	1996	5. 1	24. 8	49	14. 5	18. 8
S. Korea	1975	25. 3	27	27. 8	17. 5	18
	1986	2. 5	29. 6	34. 1	30. 9	28. 5
	1995	4. 5	37	33. 1	36	35. 2
	1996	4. 9	38. 2	32. 4	34. 2	
China	1975		30. 3	5. 2	30. 6	30. 6
	1986		37. 8	9. 9	33. 7	34
	1995	16. 9	40. 5	21	42	40. 5
	1996	8. 3	42. 4		43. 9	43. 1
Singapore	1975	2. 5	39. 9	146	29. 4	29. 6
	1986	0. 5	42. 5	168	40. 1	42. 5
	1995	1. 7	33. 1	186. 6	50. 8	
	1996	1. 4	35. 1		50. 5	

Source: World Bank, World Development Bank Indicators 1998 CD-ROM,

1.2 A liberalized financial market and a weak financial sector

In the present time, the world financial market is in its process of international integration, and the capital market is also getting more and more mobile and global. The modern communication technology has linked the foreign exchange market, money market and capital market altogether, making capital flow worldwide, more and more efficiently and in increasing scale. The huge capital flow, however, has had less and less connection with real

sectors. In 1995, the average size of the worldwide daily capital trade volume was USD12000 billion, which was 90 to 100 times of the size of real goods and services. (Xiang & Zhang, 1998) The isolation of real economies from capital economies (or so-called money economies, electronic economies) is one of the main changes of the world economy in the past two decades. The capital economies, which include trading in stocks and financial derivative trading tools like options and futures, have developed their operation rules and principles. The capital economies link with real economies by financial prices like interest rate and foreign exchange rates. The capital economies can cause drastically fluctuation, which frequently bring shocks to the real economies. The separation of capital economies and real economies makes governments more difficult in adjusting their domestic economies and currencies. Huge international capital flows can deliver extremely strong shocks to an economy by damaging their financial markets in a short time of period. Therefore, the establishment of a sound financial sector and a good governing ability are extremely important to the healthy operation of the financial market as well as the economy as a whole, before it is liberalized to the outside world. In this aspect, many economists have proposed that certain control policies in the financial sector is necessary for developing economies. Without a sound financial sector and good governing ability, an economy would become more fragile to internal and external shocks. In 1992, the United Kingdom also experienced the similar currency crisis, which brought about a sharp devaluation of the GBP against other major currencies and USD10 billion loss in its foreign reserves. But the GDP crisis had not caused serious financial crisis like what we have seen in the Asian currency crisis. One of the important reasons underlying this difference is that British economy is a well-developed capitalist system with a sophisticated financial sector. In our later discussion, we will see that in the financial systems of the crisis countries, there existed many imperfections, which have contributed to the onset of the Asian crisis.

Many emerging economies including the crisis hit Asian countries have liberalized their domestic financial market, lifting controls on domestic interest rates and credit allocation, privatizing financial institutions, allowing entry and competition from new private and foreign institutions. Unfortunately, the financial sectors in these countries had not been improved accordingly in terms of banking transparency, risk controlling, governmental

distortion limiting and so on. Therefore, the liberalization of financial market had made these countries more accessible to the international capital market and contributed partly to the East Asian miracle, but at the same time, also made them more vulnerable to changes in external conditions. As was indicated by BIS (Dec. 1998), the fierce competition after financial liberalization can lower the profit margin of banks and lead to excessive risk taking by bank managers. For example, banks might engage in cutting-throat competition to lure depositors by over-raising deposit interest rates.

As our discussion in Chapter two, a certain external factors may cause fatal shocks to the economic systems of the emerging countries like the East Asian countries (excluding Japan), especially when internal imbalances of fundamentals have already existed. Interest rate declining in advanced industrial countries tend to encourage capital flow to emerging market economies, but a sudden increase in interest rate in industrial countries tend to induce capital outflow from emerging market economies. For example, the sharp the US interest rate increase in the early 1980s was regarded as the most important factor, which made Latin America in serious debt crisis. As in our later discussion, the changes in the external conditions have also played an important role in the currency crisis in East Asian countries, which extensively depend on international capital market and export market.

China is still maintaining its control policy of foreign exchange under its capital account. In the currency crisis, though a lot of international investors suspected sustainability of the pegged exchange rate regime of the Chinese RMB, Chinese financial market received little shocks from outside. One of the main reasons is because the RMB is not the freely convertible currency and capital is not allowed to flow freely as in Thailand and Korea. Therefore, the policy of foreign exchange control under capital account is regarded as one of the main reasons that China can escaped from currency crisis.

Section 2: Increasing labor cost

As shown in Table 4-1, in 1996, most of the crisis-hit countries experienced obvious slowdown of economic growth, but higher rate of slump in export growth rate. The GDP growth rate of Thailand fell for 30.43% in 1996 than in 1995, Indonesia for 7.3%, Malaysia for 15.79% and

South Korea for 21.11%. But during the same period, these countries experienced higher rates of recession in the export growth, for Thailand 83.8%, for Indonesia 26.7%, for Malaysia 43.68%, and for South Korea 41.25%.

The fall in export growth not only slowed down the economic growth but also deteriorated the balance of payments of these countries.

Some studies pointed out that the slowdown of economic growth of these Asian countries were due to the failure in reforming their economic structures. (Xiang & Zhang, 1998) The traditional industries of these countries were mainly labor-intensive. As the labor costs increased, their competitiveness diminished, especially when China, East Europe and Latin American countries where labor is even cheaper, stepped into the world market of labor-intensive industries in large scale. As was claimed, higher labor cost requires the countries to upgrade their production to more capital and technology-intensive industries, which can produce higher return rate of investment. Korea was an exception, which had developed very rapidly in a series of high-tech industries like telecommunication etc., boosted by governmental supportive policies. As we will discuss in Chapter 5, the main problem of South Korea was in the troubled financial sector and corporate sector.

The loss in the cheap labor advantages, and the failures in upgrading their economic structure from labor-intensive to capital and technology-intensive industries, made these countries' export stagnate and economic growth slow down.

Because of the unavailability of the data for other Asian countries, here we use the data of hourly earnings, productivity and unit labor cost for newly industrialized Asian countries (NIAC) to compare with that of major developed countries. The newly industrialized Asian countries includes Korea, Singapore, Hong Kong SAR of China and Taiwan province of China, which have been regarded have had the similar problems and thus received shocks in the crisis in different scales.

From Table 4-3, Table 4-4 and Table 4-5, we can see that the hourly earnings in NIAC during the past two decades have grown much faster than productivity. The growth rates of

unit labor cost in manufacturing of this group of countries were also higher than the average level of advanced economies.

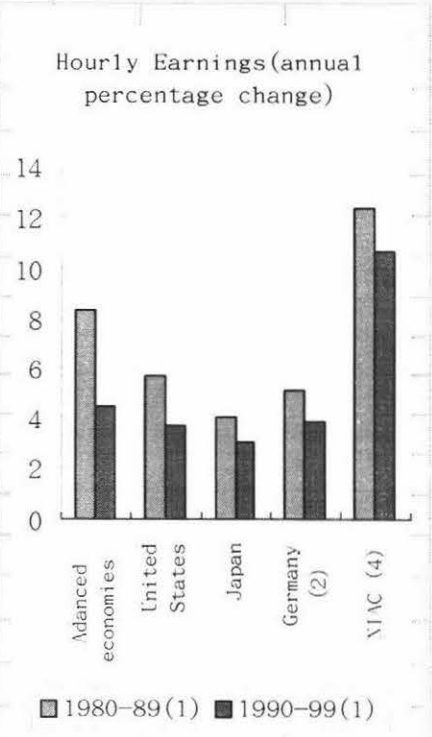
The persisted rise in the labor cost level had actually made these countries high-production-cost countries and hurt the sustainability of the pegged exchange rate regime. According to the relative PPP theory, the exchange rate over a period of time tends to change proportionally according to the relative change in the price levels in the two nations. The higher increasing rates of labor cost in the newly industrialized Asian countries mean that in a long period of time, the currencies in these countries or regions tend to depreciate against that of the developed countries.

The incompatibility of the existing pegged exchange rate levels with the fundamentals demanded adjustments in either or both of them. Under the floating exchange rate regime, the exchange rates could adjust the inconsistencies through daily fluctuations. In these countries, foreign exchange rates were pegged to the US dollar and the pegged levels had been maintained for quite a long time, for example, the Hong Kong dollar's pegged level (HKD7.8/USD) has been maintained since 1983. Therefore according to the data in Table 4-3, Table 4-4 and Table 4-5, it is quite rational for us to doubt that the pegged exchange rate levels were still in accordance with the fundamentals of these countries and regions.

Table 4-3: Changes in Hourly Earnings in Selected Countries and Regions (Annual percentage change)

Year	Adanced economies	United States	Japan	Germany (2)	NIAC (4)
1980-89(1)	8.3	5.7	4	5.1	12.3
1990-99(1)	4.4	3.7	3	3.8	10.7
1990	6.6	4.7	6.5	5.7	18.9
1991	6	5.3	5.9	-0.3	15.2
1992	5.8	4.3	4.6	9.6	13.5
1993	3.9	2.9	2.6	6.7	9.8
1994	4	2.8	2.7	1.9	10.9
1995	3.5	2.8	2.5	4.1	7.5
1996	3.7	3.3	1.7	4.3	9.3
1997	3.6	3.4	3.2	1.1	8.5
1998(3)	3.4	4	-0.6	2.4	9.6
1999(3)	3.3	3.8	0.6	3.1	5

(1) Ten-year averages
(2) Data through 1991 apply to west Germany only.
(3) Estimated data
(4) Newly industrialized Asian economies

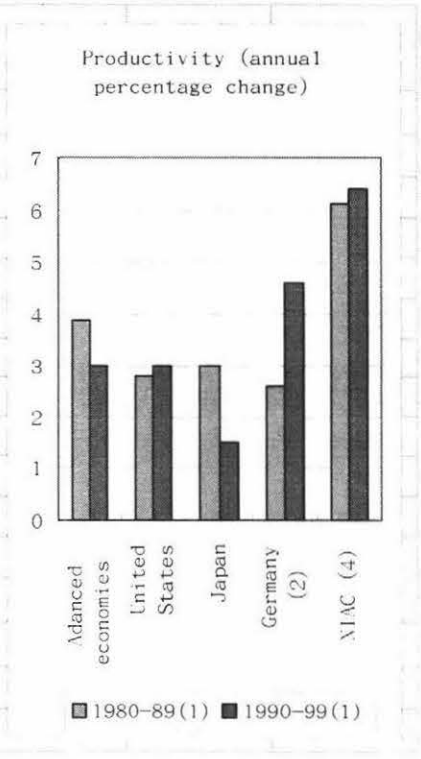


Source: International Monetary Fund, The World Economic Outlook, 1998

Table 4-4: Changes in Productivity in Selected Countries and Regions (Annual percentage changes)

Year	Adanced economies	United States	Japan	Germany (2)	NIAC (4)
1980-89(1)	3.9	2.8	3	2.6	6.1
1990-99(1)	3	3	1.5	4.6	6.4
1990	2.3	1.8	2.8	3.5	8.8
1991	2	2.3	1.5	0.4	8.5
1992	2.8	3.6	-3.7	4	6.4
1993	2.3	2.2	-1.6	3.2	7.8
1994	4.9	2.6	3.5	8.6	7.2
1995	3.8	3.1	4.9	5.3	8.4
1996	3.2	3.9	4	5.5	7.2
1997	4.2	4.3	5.6	7.4	4.6
1998(3)	2.4	3.5	-1.6	4.2	3.5
1999(3)	2.2	2.5	0.1	4	1.7

(1) Ten-year averages
(2) Data through 1991 apply to west Germany only.
(3) Estimated data
(4) Newly industrialized Asian economies

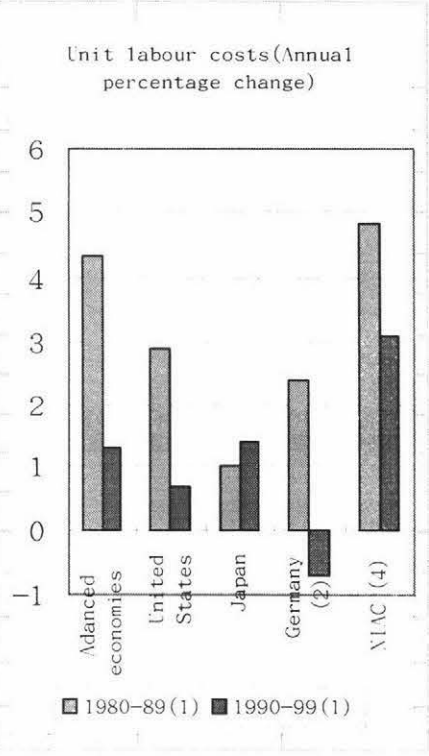


Source: International Monetary Fund, The World Economic Outlook, 1998

Table 4-5: Changes in Unit Labor Costs in Selected Countries and Regions (Annual percentage change)

Year	Adanced economies	United States	Japan	Germany (2)	NIAC (4)
1980-89(1)	4.3	2.9	1	2.4	4.8
1990-99(1)	1.3	0.7	1.4	−0.7	3.1
1990	4.2	2.9	3.5	2.1	8.5
1991	3.9	2.9	4.3	−0.7	5.1
1992	2.9	0.7	8.6	5.4	4.9
1993	1.6	0.7	4.3	3.4	1.3
1994	−0.9	0.1	−0.7	−6.1	2.1
1995	−0.4	−0.3	−2.3	−1.1	−1.7
1996	0.5	−0.5	−2.2	−1.1	1.1
1997	−0.6	−0.9	−2.3	−5.8	2.8
1998(3)	0.9	0.4	0.9	−1.7	4.7
1999(3)	11	1.3	0.5	−0.9	2.5

(1) Ten-year averages
(2) Data through 1991 apply to west Germany only.
(3) Estimated data
(4) Newly industrialized Asian economies



Source: The World Economic Outlook, 1998 International Monetary Fund

Section 3: Overproduction pressed down the return rate of investment and decreased the indirect foreign investment

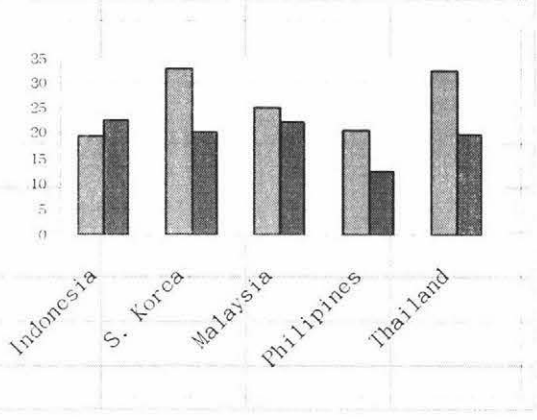
In its 1996 Annual Report, Bank for International Settlement had warned that indications of excessive investment in particular sectors had already emerged. (BIS, 1996) On the demand side, a sharp cyclical downturn in world semi-conductor demand in 1996 and 1997 had expanded the market imbalance. (BIS, Dec. 1998) For example, the massive investment in Asia's semi-conductor electronics industry resulted in oversupply of electronic products and declining in prices. Electronics is one of the major industries from which these Asian countries earn their foreign exchange. Actually, the same situation also existed in many other industries like automobile construction, household appliances and electricity generation.

Over-investment resulted in declining of the return rate on investment. As shown in Table 4-6, compared with the period from 1986 to 1990, the average growth rate associated with a given investment rate (so called incremental capital /output ratio, ICOR) of the five Asian countries during the period from 1991 to 1996 is much lower except for Indonesia.

The declining of the return rate on investment naturally diminished the investment desire of foreign investors. It is one of the main reasons that the foreign direct investment inflow declined, which made these East Asian countries more dependent on foreign indirect investment. (More discussion in Chapter 5)

Table 4-6: Incremental Capital/Output Ratio in Selected Countries

	Average ICOR 1986-1990	Average ICOR 1991-1996
Indonesia	19.2	22.6
S. Korea	32.9	20.2
Malaysia	25.1	22.1
Philipines	20.5	12.2
Thailand	32.6	19.6
Average	26.06	17.14



Source: Bank for International Settlement, The 68th annual report, 1998,

Section 4: The emergence of China weakened the competitiveness of other East Asian countries.

"Supply creates its own demand" is the famous Say's law of market. But many economists had pointed out the shortcoming of this dictum and found that the capitalist economy was not self-adjusting. The capitalist world has an inclination of over production, or so called by Malthus as "general gluts".

In the 17th and 18th centuries, as more and more countries in Europe started their process of capitalization, the problem of overproduction gradually troubled these countries and caused competition among them. At that time, the vast undeveloped areas provided a new market

to absorb the over produced commodities, which facilitated the further development of the capitalist world. Therefore, the fierce competitions among capitalist countries had even been extended to grasping overseas colonies.

After the 2nd world war, the new world-order was established, more and more undeveloped countries became independent from the control of their former host countries and joined the system of world capitalism. Though the size of the world economy has been expanding, and the aggregate demand is also growing rapidly, over-production still happened frequently and caused economic crisis.

The industrial structure of emerging countries is normally different from that of advanced industrialized countries. Because of their advantage in cheap labor cost, most of the emerging countries begin their industrialization from labor-intensive industries until a sound industrial foundation is established.

Latin America, which mainly includes Brazil, Argentine, Mexico was the first region to start industrialization. The inflow of international capital in the 1960s and 1970s had helped these countries in facilitating this process and made this region develop rapidly. But as the emergence of the East Asian countries in the international capitalism during the late 1970s and 1980s, Latin American countries faced intense competition because the new emerging countries also mainly produced labor-intensive products. Latin American countries had not upgraded their technology and production. They did not have any advantages when competing with advanced capitalist countries in technology-intensive and capital-intensive industries, while they found that they had also lost their competitiveness with East Asian countries in labor-intensive industries. They suffered serious economic crisis in 1980s, which led to vast international debt rearrangement. The panic withdrawing of foreign capital in 1994 also dragged Mexican peso into sharply devaluation.

Economists have provided a lot of reasons for the debt crisis in Latin America and Mexican Peso crisis. But few economists have noticed the influence from the emerging of East Asian countries in the world capitalist system.

Having experienced the painful corrections of economic and financial crisis, Latin American countries had regained some of their competitiveness, especially Mexico, because of which the currency devaluated in large percentage in 1994. As shown in Table 4-1, Mexico suffered serious economic depression following the currency crisis in 1994. In 1995 the growth rate of GDP of Mexico was –6.2%, but the export of goods and services grew by 33%. In 1996, Mexico regained fast economic growth---GDP grew by 5.9%, in comparison with the obvious slowdown of economic growth in many East Asian countries.

Latin America and Southeast Asian countries faced new competition, when China stepped into the system of capitalism in the 1980s. Though China has claimed to maintain socialism in politics, she has been changing its traditional central planning economy to market economy in nearly every aspects, and gradually reshaped its economy into the capitalism as it opened its door more and more to the outside world. China has a population of 1.2 billion and therefore has a huge labor resource with cheap costs, which provides its special advantage in international competition and therefore attracts huge investment in its labor-intensive industries. In the past ten years, China enjoyed an outstanding rapid growth in GDP. Fatal change in the relative competitiveness between China and other developing countries happened in 1994 when China devaluated the RMB by about 50%.

Since other East Asian countries did not do the same depreciation as Mexico and China did, their currencies had been overvalued relatively.

The gain of China and Mexico means the loss of other Asian countries in external competitiveness. Looking at Table 4-1, we can see the coincidence between the substantial expansion of export of goods and service of China and Mexico the following two years (1995 and 1996) and the export stagnation of other Asian countries, including Thailand, Malaysia, Korea and Indonesia during the same period.

The stronger competitiveness of China and Mexico did not only emerge in the export markets but also in capital market. The vast potential domestic market has made China as the primary host countries for direct foreign investment and the sharp depreciation of Mexican peso has also attracted many American investors.

The loss in the attractiveness to foreign direct investment made these Asian countries rely more on foreign indirect investment, mainly short-term credit, which further increased the vulnerability of their economies.

Since Chinese government is insisting on stabilizing the exchange rate of RMB for the consideration of political and economic stability, maybe it is the turn of Chinese to lose in the competition among emerging countries. According to the Chinese Statistics Bureau, China experienced the first red figure of export growth in the past ten years, comparing the obvious improvements in Thailand (Table 6-1). Obviously, the relative over-valued of Chinese RMB following the Asian currency crisis is the main cause. (More discussion in Chapter 6)

Of course, it is quite a complicated question as whether China should devaluate its RMB. Some economists like Professor Rudi Dornbusch (1998) of MIT said that China does not need, nor should devaluate RMB to get back to export growth, but should focus on expanding domestic demand and reform its banking sector and the state enterprise sector. But since the high growth rate of Chinese economy in the past several years since 1994 was based on the rapid growth of export in a certain scale, the stagnation of export will undoubtedly make it more difficult to maintain the high economic growth.

Section 5: The shock from the devaluation of the Japanese yen

The US dollar had been depreciating for several decades against other major currencies before 1996. For example, In 1960s, the exchange rate of the US dollar against the Japanese yen was around 300 YEN/USD, but touched the lowest as 79 in early 1996 (Table 2-2). The depreciation of the US dollar was good to countries, which pegged their currencies to the US dollar. Because it was not only improving their competitive position over countries other than the US in international market, but also made them more attractive to foreign capital, especially that from Japan and Germany whose currencies had appreciated.

Japan is the largest economy in Asia and it represents 60% of the region's GDP and it has great affects on the rest of the region through both trade and investment. The long-term

strong yen has been enabling other Asian countries to export more goods to Japan and at the same time, making this area as the most optimal place for Japanese surplus capital. Starting from late 1980s, in the industrial restructuring of Japan, many firms transferred their labor-intensive industries like electronics and automobiles to other Asian countries and these industries had become main industries of these Asian countries. For example, by June 1997, the number of Japanese firms in Thailand had reached 1144, by 45.7% of foreign firms in Thailand in terms of registered capital. But what more influencing in the currency crisis was that Japanese banks had also lend a large volume of short term capital to this area, which gave strong shock to the economies of the recipient countries when this funds fleeing out during the crisis. According to statistics (An, 1998), by June 1997, Japanese banks had placed out short-term capital in the international money market for amount of USD319 billion, of which USD270 billion were placed to countries in South East Asia. About 50% of the foreign debt of Thailand and Indonesia were loans from Japanese banks, one third of which were short-term loans. By the end of 1997, the ratios of foreign short-term loans over foreign reserves in South Korea, Indonesia, Thailand, Philippine, were as high as 925%, 194%, 123% and 79% respectively.

But when the US dollar turned its long-term falling trend in early 1996 against most of the other major currencies especially yen because of the relatively much stronger economic development in the United States. It obviously brought a disaster to these Asian countries whose economic fundamentals had not been in line with the US. The Strong US dollar made most of Asian currencies relatively overvalued, which sharply deteriorated their competitiveness and therefore weakened their external sectors.

Another factor from Japan is the tightening fiscal policy of Japanese government enforced in late 1996, which sharply contracted the import demand of Japan, and hurt the export growth in other East Asian countries. (More discussion in Chapter 6)

Chapter 5

An Analysis On The Origins And Causes Of The Asian Currency Crisis (2)- The Misuse And Bad Supervision Of Foreign Debt

Section 1: The massive inflow of capital in the first half of 1990s

The impotent economic growth in the developed economies, especially in Europe and Japan led to their interest rate declining in the 1990s and thus create less attractive investment opportunities to international surplus capital. (Table 5-1 and Table 5-2) Therefore the surplus capital have been looking for investment opportunities in emerging market economies, especially in the East Asian area which had been regarded as the most active dynamic region in the past two decades.

As was mentioned in Chapter 4, another important cause for the massive inflow of capital to Asian countries was the heavy investment by Japanese enterprises because of the appreciation of Japanese yen in late 1980s and early 1990s. Many Japanese companies, supported by Japanese bank lending, shifted their production lines to lower-wage Asian countries whose currencies had been depreciating against yen.

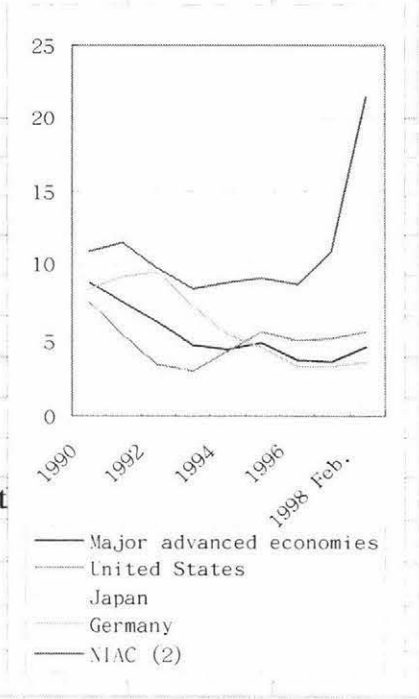
As shown in Table 5-3, the flow of the worldwide net private capital to emerging market economies has grown rapidly since the beginning of 1990s, from an annual averages of USD15.2 billion in the period of 1984-1989, to USD148.1 billion in the period of 1990-1996. It reached a record high of USD240.8 billion in 1996. During the period of 1990-1996, 37.74% of the private capital, about USD55.9 billion flew to Asia. In 1996 this ratio further went up to as high as 42.44% (USD102.2 Billion).

Table 5-1: Short-term Interest rate (1) (in percent a year)

	Major advanced economies	United States	Japan	Germany	NIAC (2)
1990	8.7	7.5	6.9	8.4	10.9
1991	7.5	5.4	7	9.2	11.4
1992	6.2	3.4	4.1	9.5	9.7
1993	4.7	3	2.7	7.2	8.4
1994	4.4	4.2	1.9	5.3	8.8
1995	4.8	5.5	1	4.5	9
1996	3.7	5	0.3	3.3	8.6
1997	3.6	5.1	0.3	3.3	10.9
1998 Feb.	4.5	5.5	0.8	3.5	21.4

(1) Short-term interest rate: for United States, three-mont certificates of deposit (CDs) in secondary markets; for Japan, three-month CDs; for Germany three-month interbank deposits.

(2) NIAC: Newly Industrialized Asian Countries

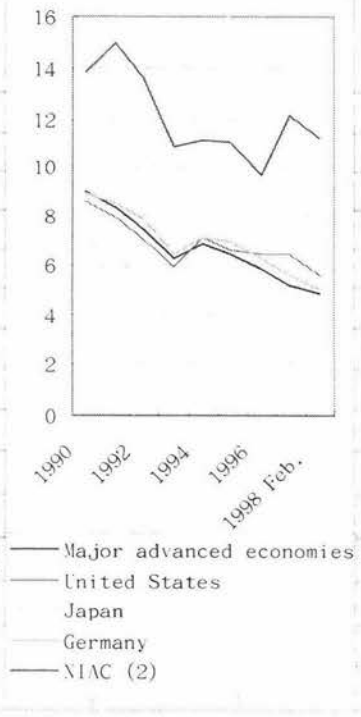


Source: International Monetary Fund, World Economic Outlook 1998,

Table 5-2: Long-term Interest rate (1) (in percent a year)

	Major advanced economies	United States	Japan	Germany	NIAC (2)
1990	9	8.6	7	8.9	13.8
1991	8.3	7.9	6.3	8.5	15
1992	7.4	7	5.1	7.8	13.6
1993	6.2	5.9	4	6.4	10.9
1994	6.8	7.1	4.2	7.1	11.1
1995	6.4	6.6	3.3	6.9	11
1996	5.8	6.4	3	6.2	9.7
1997	5.1	6.4	2.1	5.6	12.1
1998 Feb.	4.8	5.6	1.7	5	11.2

(1) Long-term interest rate: for United States, yield on ten-year treasury bonds; for Japan, over-the-counter sales yield on ten-year government bonds with longest residual maturity; for Germany, yield on government bonds with maturities on none to ten years.
(2) NIAC: Newly Industialized Asian Countries



Source: International Monetary Fund, World Economic Outlook 1998,

Table 5-3: Net Capital Flows (1) to Emerging market Economies (2) (In billions of U.S. dollars)

	1984-89(3)	1990-96(3)	1994	1995	1996	1997	1998 (5)	1999 (5)
Total	15.2	148.1	160.5	192	240.8	173.7	122	196.4
Developing countries	18.2	131.2	136.6	156.1	207.9	154.7	99.5	168.6
Africa	3.6	4.4	10.6	13.8	4.5	8.9	7.5	11.3
Asia	13	55.9	63.1	91.8	102.2	38.5	1.5	58.8
Middle East &Europe	1.7	25.2	15.5	14.8	30.7	16.1	18.7	16.4
Western Hemisphere	-0.2	45.7	47.4	35.7	80.5	91.1	71.7	82
Countries in Transition	-1	12.8	18.4	29.8	21.3	34.5	35.4	39.2
Newly Industrialized economies(4)	-2	4.1	5.5	6.1	11.7	-15.4	-12.9	-11.3

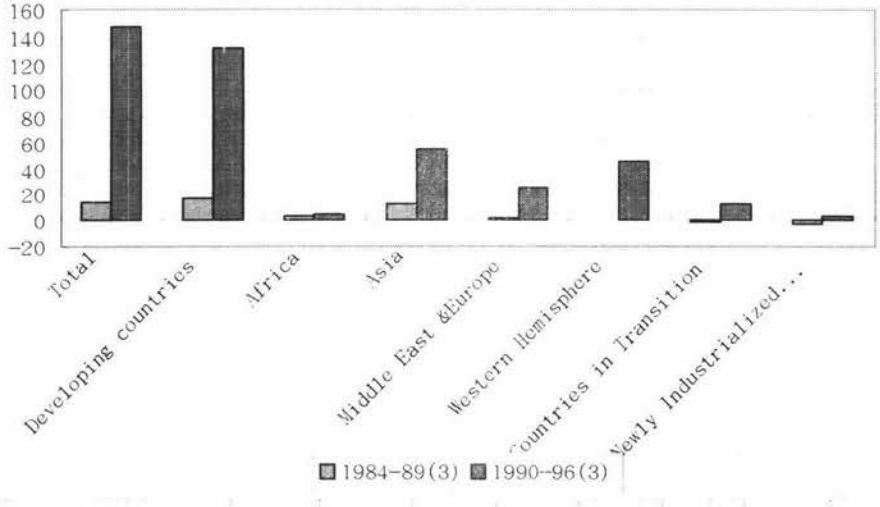
1.Net capital flows comprise net direct investment, net portfolio investment, and other long- and short-term net investment flows, including official and private borrowing;

2. Emerging market economies includes all developing countries,newly industrialized and transition countries;

3.Annual averages;

4.Hong Kong SAR, Korea, Singapore, Taiwan Province of China, and Israel.

5.The data of 1998 and 1999 were projected



Source: International Monetary Fund, World Economic Outlook 1998,

Because of its highly volatility, the private capital is regarded as hot money and its inflow and outflow heavily affect the host countries. When the country is regarded as having sound economic fundamentals and a good return rate of investment, private capital will keep

pouring in until the return rate comes down to normal level. As we have discussed in Chapter two, international investors require a currency risk to be covered when investing in other countries, especially in the emerging countries, which are regarded as high-risk area. When the fundamentals of the emerging countries are found to have changed, international private capital would flee out of these countries. As in Table 5-3, when the currency crisis unfolded in mid-1997, the net capital inflow to this area sharply decreased to USD38.5 billions (only 22.16% of the total net private capital flows) in 1997 and only estimated USD1.5 billions (only 1.23% of the total) in 1998.

Even to countries with sound fundamentals, the massive inflow and outflow can cause a certain shock to the economy. Normally, the inflow of money gives pressure of appreciation to the host currency, while outflow gives pressure of depreciation. During the years of net inflow of foreign capital, the currencies of most of the East Asian countries were under the pressure to appreciate. Actually some of the government had recognized the potential problem of over-inflow of foreign short-term capital, but were not able to adjust it. Under floating exchange rate regime, over-inflow of foreign capital will push up the market value of the domestic currency, and press down the interest rate level, both of which would discourage further inflow when come to a certain point. But these East Asian countries did not have such foreign exchange rate mechanism because of the pegged exchange rate regimes. The governments found that they were even unable to lower interest rate to discourage further inflow of foreign capital, since most of these economies were in over-hit situation, and they were supposed to raise interest rate to cool down the extraordinary demand for investment and consumption. For maintaining the pegged regimes and avoid the negative effect to the export growth, the governments had to buy foreign currencies in the market. As a result, the figures of foreign reserves in these countries grew steadily during those years. (Table 5-4)

But when the tide of capital flow changes its direction as outflow, these countries gradually found that their foreign reserves is too small to defend their pegs any longer, under strong selling forces originating from various demands like speculation, hedging and so on. Since most of the Asian countries had been relying on the inflows of foreign capital to cover

current account deficit, the decrease in the flows of foreign capital deteriorated the balance of payments of these countries and deepened the currency crisis.

Table 5-4: Balance of Payments of selected Countries (USD Millions)

	years	Exports of goods and services	Imports of goods and services	Current account balance	Financing items(net)	Reserves including gold
Thailand	1975	2, 780	3, 478	-606	555	2, 007
	1985	9, 100	10, 206	-1, 537	1, 642	3, 003
	1995	70, 292	82, 219	-11, 927	20, 713	36, 939
	1996	71, 416	83, 482	-14, 692	16, 859	38, 645
Indonesia	1975					592
	1985	19, 371	17, 840	-1, 923	2, 433	5, 989
	1995	51, 160	53, 244	2, 433	8, 596	14, 908
	1996	56, 130				19, 396
Malaysia	1975	4, 236	4, 399	-491	559	1, 689
	1985	17, 185	15, 604	-600	1, 748	5, 677
	1995	83, 322	86, 595	-7, 361	5, 597	24, 699
	1996	91, 387				27, 892
Philipines	1975					1, 463
	1985	6, 864	5, 978	-36	-226	1, 098
	1995	26, 795	33, 317	-1, 980	3, 215	7, 757
	1996	34, 330				11, 747
South Korea	1975					797
	1985	32, 038	30, 554	-758	950	2, 972
	1995	149, 450	155, 833	-8, 246	15, 286	32, 804
	1996	155, 110	175, 763	-23, 060	24, 475	24, 158
Singapore	1975	7, 897	8, 477	-584	991	-407
	1985	27, 874	28, 259	-4	1, 341	-1, 337
	1995	148, 364	134, 116	14, 497	-5, 898	-8, 599
	1996	156, 052	142, 461	14, 283	-6, 887	-7, 396
China	1975					
	1985	28, 163	40, 755	-11, 417	8, 977	2, 440
	1995	147, 240	135, 282	1, 619	20, 850	-22, 469
	1996	171, 680	154, 127	7, 245	24, 460	-31, 705
Mexico	1975					1, 897
	1985	31, 566	23, 883	800	-3, 529	5, 679
	1995	89, 321	82, 168	-1, 577	-725	17, 046
	1996	106, 900	100, 288	-1, 924	5, 786	19, 527

Source: World Bank, World Development Indicators 1998, CD-ROM,

Section 2: The Misuse of foreign capital

2.1 The Current account deficit and foreign debt in East Asian countries.

Most of the East Asian countries are high saving countries. As shown in Table 4-2, in 1995 and 1996, the gross domestic savings/GDP in the selected East Asian countries is around 35%. Since saving can be turn to investment, saving makes it possible for a country to grow. In an open economy, if saving (S) equals investment (I), that is S=I, the current account (CA) is nil, because $CA = S - I = 0$.

From the above equation we can see that if a country wants to have a larger investment (S<I) for a faster economic growth, the deficit in current account is necessary:

$CA=S-I<0$.

The deficit in current account need to be corrected by a surplus of capital account, or say, a net inflow of foreign capital. Therefore, if a country runs a current account deficit (CA<0), as it is the case in the crisis-hit countries, this means that the country is borrowing from the rest of the world and its foreign debt will increase over time. So it is quite common that for rapid economic growth, developing countries run a current account deficit, as long as the deficit is controlled within a certain range.

It is generally accepted in the world that current account deficit should not go over 5% of its GDP. Otherwise, the economy could be in danger. According to this standard, Thailand and Malaysia had already gone over the warning line in 1995. (Table 5-5)

Of course, a ratio of current account deficit to GDP as high as 5% or over does not necessarily cause a big problem. "Singapore ran a current account deficit averaging 10 percent of GDP for 20 years from 1965 to 1985, while Canada ran a deficit which exceeded 5 per cent of GDP for most of the 43 years from 1870 to 1913" (Brash, 1998, p4). But both of them have developed into advanced countries. From Table 5-5, we can see that in 1995 and 1996 Singapore had high percentages of current account surplus. One massage from this

seems to be current account deficit itself is necessary but not a sufficient condition for the currency crisis to happen.

The current account deficit must be financed by a net inflow of foreign capital or a decrease in domestic foreign exchange reserves. From Table 5-4, we can see the net capital account balance and the net foreign exchange reserves had been significantly expanding the past 20 years in all of the five crisis-hit countries, Thailand, Indonesia, Malaysia, Philippine and South Korea. These indicators tell that all of these countries are net capital inflow countries.

Table 5-5: Current Account Balance, External Debt, Export and GDP Ratios

		Current account balance/ GDP	Interest payments /GDP	Total debt/GDP	Total debt service/ export
Thailand	1975	-4.1	0.7	12.5	12
	1986	-4	2.3	45.1	31.9
	1995	-8.1	1.7	49.4	11.6
	1996	-7.9	1.2	49.1	11.5
Indonesia	1975		1	35.8	
	1986	-2.2	2.3	42.1	28.8
	1995	-3.5	2.5	61.8	30.9
	1996		2.3	57.1	36.8
Malaysia	1975	-5.1	0.9	21.7	5.1
	1986	-1.9	4.6	65	30.4
	1995	-8.6	1.4	40.2	7
	1996		1.4	40.1	8.2
Philipines	1975	-6.4	1	35.1	16.9
	1986	3.2	3.8	94.5	33.7
	1995	-4.8	2.1	49.7	14.4
	1996	-5.2	2.3	55.5	9.1
S. Korea	1975				
	1986	-0.8			
	1995	-1.8			
	1996	-4.8			
China	1975				
	1986	-3.7	0.2	5.5	8.3
	1995	0.2	0.7	16.9	9.9
	1996	0.9	0.6	15.8	8.7

Source: World Bank, World Development Indicators 1998 CD-ROM,

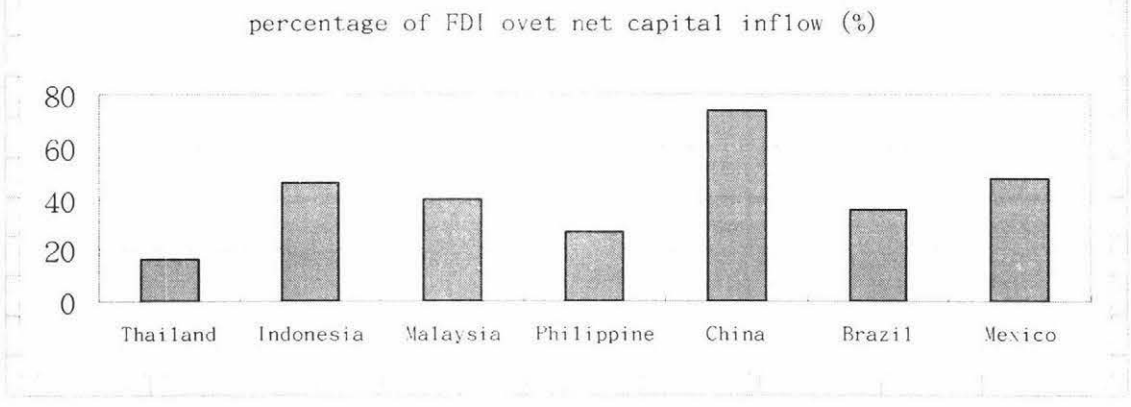
The current account deficit and the capital account surplus indicate that the investment being undertaken in these countries exceeded their domestic savings. The excess of investment over saving reflects the enthusiasm, which foreign investor have had for investing in these countries or the decisions of public and private sectors in these countries to borrow from foreigners to finance their investment.

2.2 Over-borrowing in foreign private credit

The volatility of the private capital requires the government of the host country to have prudential governance on the borrowing in foreign currencies by the banking sector and the private corporate sector. Generally speaking, foreign direct investment (FDI) is the optimal kind of foreign capital to developing countries because it tends to remain in the host countries as long-term investment and is more likely to bring in technologies and management. So governments should try to attract those foreign direct investment and discourage those short-term capital. But when we look at Table 5-6, we can see that most of the crisis-hit countries had imported relatively too much foreign indirect investment in their net resource inflows in 1996, the previous year of the onset of the Asian crisis. For example, in Thailand, the first crisis-hit country, the percentage of the FDI over total net resource inflow was only 16.4%, while that of the private creditors and portfolio equity, both of which are mainly short-term loans and investment in share market, was 78.48%. Among them, China's composition is obviously better than the others in the table, with the high percentage of FDI as 73.45%, which can be used as one of the explanations why China has suffered less shock from the withdrawing of foreign capital in the crisis. As was indicated by The Bank for International Settlement (Dec. 1998, p67), "Financial liberalization is likely to have contributed to the buildup of short-term debt relative to other external financing. Some East Asian countries had welcomed or accepted long-term foreign capital in the form of foreign direct investment or long-term debt for some time. Liberalization therefore tended to focus on removing barriers to short-term flows. Others, like Korea, maintained controls on long-term flows like FDI, while liberalizing short-term ones."

Table 5-6: Composition of Capital Inflows in 1996 in Selected Countries (USD millions)

	percentage of FDI ovet net capital inflow (%)	foreign direct investment	portfolio equity	private creditors	official creditors	official grants	net capital inflow
Thailand	16.4	2,336	1,551	9,630	634	96	14,247
Indonesia	45.73	7,960	3,099	6,971	-803	190	17,408
Malaysia	39.73	4,500	4,353	3,243	-777	7	11,326
Philippine	26.99	1,253	0	3,022	107	260	4,642
China	73.45	40,180	3,466	6,454	4,359	248	54,705
Brazil	35.38	9,889	3,981	14,514	-514	80	27,950
Mexico	47.96	7,619	3,922	12,107	-7,793	30	15,885



Source: World Bank, World Development indicators 1998 CD-ROM,

2.3 Foreign debt and the balance of payment

Investors want to earn profit from the funds that they have invested. If the foreign capital is imported in the form of direct investment, the foreign investors will take the investment exposure by themselves. But if the foreign capital is imported by means of indirect investment, domestic investors have to take the obligation to pay interest or dividend on the capital used in the same foreign currency on maturity. They have to face debt servicing and foreign exchange rate exposure in the future.

If the foreign capital is imported to finance profitable export-oriented projects, it will cause no problems, because these projects can produce export products and earn foreign currency to repay the debt and interest over a certain period of time in the future. Eventually they will improve the current account condition. But if the foreign capital is invested in unprofitable projects especially those that will not produce any so called "tradable goods" for export, it will leave problems to future for the balance of payment.

As was discussed in Chapter 4, the declining rate of return on investment decreased the desire of foreign investors in undertaking direct investment projects in these Asian countries and made these countries more reliance on foreign indirect investment. But the inadequate financial sector governance, poor assessment and management of financial risk had contributed to the misuse of foreign debts.

As was indicated by the BIS (1998), in most of the Asian countries, governments have been usually playing an important part in the bank loans allocations. This caused a lot of failures on the part of lenders as well as investors to subject final investment decisions to an objective market feasibility study. As a result, lots of foreign loans had been used in financing projects of poorer-quality and low rate of return. At last, many borrowers failed to service the loan with the earnings of the projects and dragged the banks into debt crisis. When the projects can not earn enough foreign currencies, more foreign loans have to be borrowed so that the original debt can be serviced.

One of the important lessons in the currency crisis is that much of foreign capital were used in financing real estates projects which created no potential of earning foreign currencies but only expanded the volume of foreign debt. One study by Bank for International Settlement showed that the relationship between foreign direct investment and the growth of exports in the 1990s is rather weak in these East Asian countries (BIS, 1998). Obviously, a large part of foreign direct investment was undertaken in industries like real estates, which are nearly unable to create foreign exchange earnings. When the inflow of foreign capital can not contribute to the export growth, it will deteriorate the situation of the balance of payment in the country, which exerts a great pressure on domestic currency to depreciate.

2.4 The Pegged exchange rate regime and the over-expansion of foreign debt

Investors facing daily exchange rate fluctuation have learnt that they must take foreign exchange rate risks into account when planning an investment project, and therefore make necessary hedging arrangement to protect themselves. Therefore, to borrow a foreign currency with lower interest rate, rational investors have to make hedge arrangements, which normally add a cost to their borrowing which would eventually diminish the interest rate differential. In an efficient foreign exchange market, the difference in interest rates between two currencies is fully reflected in the premium or discount points of the forward exchange rate, because of the hedge activities in the market. Borrowing a foreign currency with lower interest rate without any hedge arrangement means the borrowers takes a currency exposure for the different of interest rates. But such practice is usual in countries with pegged exchange rate regimes.

New Zealand, whose currency has become floating since mid-1980s, is a good example for explaining the sound market mechanism of a floating foreign exchange rate regime. New Zealand had also received shocks from the Asian crisis in terms of declining demands for its commodities and withdrawing of foreign capital, and the New Zealand dollar had depreciated by about 30% from 0.72 in the first half of 1997 to 0.50 against the US dollar in late 1998. But we have seen no such chaotic situation that happened in the East Asian countries emerged in New Zealand, no such foreign debt repayment crisis or financial sector crisis has happened in New Zealand as well. Part of this different consequence is that the businesses and financial institutions in New Zealand have got used to such fluctuation in foreign exchange rate and therefore suffered less from mistakes such as open positions in foreign borrowings.

All of these East Asian countries have been maintaining fixed or quasi-fixed exchange rates for quite a long time. It has made the banks and investors pay insufficient attention to the exchange rate exposure. With no need to care about the foreign exchange rate fluctuation, banks and investors think that it is too cheap to borrow foreign currencies with low interest rates like the Japanese yen and the US dollar.

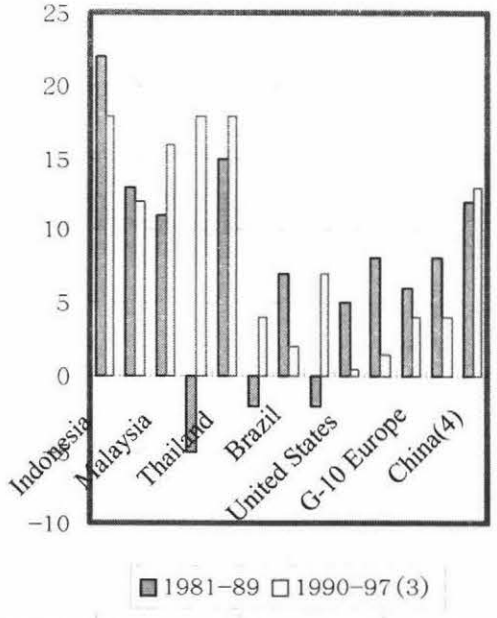
It was the usual practice for the banks in these Asian countries to borrow foreign currency but leave them uncovered. Banks felt it easy to borrow foreign currencies with lower interest rates to finance local currency business and assets to earn the interest difference under the illusion that they could shift the local currency to foreign currency any time at the fixed exchange rate.

The above illusory perception caused the banks in these countries to expand credit at an extraordinarily rapid rate, especially in 1990s. As was indicated by BIS (1998), in all of the five Asian countries except Philippines, banks generally kept too high debt/equity ratios which made them and the banking system rather vulnerable to any appreciable slowdown in economic growth. As shown in Table 5-7, in all of these five Asian countries, bank credit growth rate was very high when comparing with other countries.

Table 5-7: Annual Expansion Rates (1) of Bank Credit to Private Sector (2)

	Bank Credit to the Private Sector(1) Annual rate of expansion(2)	
Country	1981-89	1990-97(3)
Indonesia	22	18
Korea	13	12
Malaysia	11	16
Phlipines	-3	18
Thailand	13	18
Argentina	-2	4
Brazil	7	2
Mexico	-2	7
United States	3	0.3
Japan	8	1.3
G-10 Europe	6	4
India	8	4
China(4)	12	13

(1) Annual average.
(2) Deflated by consumer prices
(3) 1997 data are preliminary
(4) Credit other than to central government



Source: Bank for International Settlements, *The 68th Annual Report* 1998,

It needs to be indicated that the massive expansion of bank credit was accompanied by positive real interest rates. According to BIS (1998), the average level of real short-term

interest rates in the five Asian countries except Philippines was around 5% in early 1990s. Why did not such a high real interest rate level discourage foreign borrowing from investors?

The first explanation for this is the fallacious perception about the interest rates differentials between domestic and foreign currencies derived from the long period pegged exchange rate regime as we have described above. The second explanation for this is the over optimism about future growth prospects. This fallacious attitude came from the experience of long period rapid economic growth in the past decades. Bankers, firms and households thought that the rapid economic growth could sustain and therefore underestimate the high risk of over-investment. The third explanation is the rising assets prices. In these Asian countries in the past several years, the rising real estates had been stimulating investors to borrow from banks to build more and more apartment buildings. Personal investors borrow to buy more and more properties, which were not for living but mainly for selling at higher price in the future. Real estates were regarded as assets, which could appreciate so rapidly that investors neglect the interest cost for their borrowing. Bankers also felt safe to lend their money to the real estates industry. They simply forgot that property market could crash and made those debtors insolvent. The expansion of bank credit reinforced stronger boom in the real estates market. Actually, it is the process what the so-called "bubble economy" is formed.

Obviously, these banks and the investors had been vulnerable to the change in exchange rate. When their currencies got a sharp depreciation following the collapse of pegged exchange rate regime, the banks and borrowers suffered substantial loss suddenly.

The excessive investment in five Asian countries undoubtedly widened the current account deficits. In the sense of international settlement, to cover this deficit, there are three alternatives:

Firstly, domestic currency is depreciated to encourage export and discourage import, and at the same time encourage more inflow of foreign.

Secondly, the central bank sells foreign currencies and buys domestic currency by decreasing official reserves.

Thirdly, raise domestic interest rate to attract foreign short-term capital inflows.

Since the governments of these East Asian countries have been committed to maintain the pegged exchange rates, the first choice was not applicable. Maintaining enough foreign reserves is also necessary for their pegged exchange rate regimes, and hence the second choice was also not applicable in the long term. Obviously, only the relatively higher interest rate level in these Asian countries could attract massive inflow of short-term foreign capital to finance the widening current account deficit. As shown in Table 5-4, the current account deficit expanded enormously in most of the East Asian countries in the past ten years, the higher interest rates not only increased capital account balance but also increased their official reserves.

Actually, the pegged exchange rate regimes in East Asia countries has been reducing the ability of monetary policy to adjust the overheating economies in mid-1990s.

The apparent overheated of the economies had been fully recognized by the governments of East Asian countries in mid 1990. For cooling down the economies, the governments should have tighten up the monetary policy by increasing interest rate to cool down the domestic investment demand, especially in real estates investment projects as well as consumption demand for importing goods. Under higher interest rate, a lot of projects with inherently low return rates would become unprofitable and would not be put into operation. But since the governments dared not to further raise interest rate. As we have discussed in Chapter 2, under the pegged regime, the money authority must maintain its interest rate level in accordance with the key currency. Higher domestic interest rate would enhance demand for domestic currency and encourage further inflow of foreign capital. Consequently, domestic currency would have an inclination of appreciation, which would give pressure to the pegged exchange rate regime.

Obviously, the governments were in a dilemma. For cooling down overheated domestic economies, the governments should increase interest rate, but for maintaining the peg, they should keep the interest rate level in line with the key currency. The problems had not been solved properly until the crisis happened.

Section 3: The Insufficient external liquidity to maintain the pegged exchange rate regime

From the above analysis, we can see that banks, firms and households had formed an illusory expectation that the economies would rapidly grow as before and the fixed foreign exchange rate would be maintained in the expectable future. But this kind of expectation can be changed over night, which then can impose very detriment impacts on the economy.

Once people realize that the economies were extremely vulnerable to shocks and the maintainability of the fixed exchange rate was in doubt, they would quickly act to protect their interest by seeking to hedge their uncovered short-term foreign currency liabilities as soon as possible. Though those foreign direct investments are difficult to dispose immediately, the investors can also hedge their assets in the foreign exchange market. They can do this in the foreign exchange market both spot and forward easily. When the inflow of short-term foreign capital stops, the central bank has to sell foreign exchange reserves to support the domestic currency and maintain the prevailing exchange rate level. If the government does not have enough foreign exchange reserves, it will be in trouble. Since the turnover of the foreign exchange market is very large, if the government is forced to abolish the pegged exchange rate regime, a sharp depreciation of the currency will immediately follows.

It is a disaster to the whole economy, but at the same time also means an opportunity to speculators. So when the depreciation of one currency has become creditable, more and more people like the following would get into the side of selling the currency:

---Investors who have borrowings in foreign currencies

---Foreign investors who have bought local assets like stocks and bonds

---Foreign investors who have direct investments in the country might also hedge their investment by selling local currency in forward exchange market

---Domestic residents who want to shift their local currency assets to foreign currency assets to avoid shocks from the expected currency crisis

---Speculators who do not have any local currency or assets can sell this currency in the exchange market by borrowing local currency in the banking system and sell them in the market, in the hope to make profit from the crash of the pegged exchange rate regime.
The last one is the main force driving the present Asian currency crisis in a very short period of time. It has become well known in the international financial market that the "Quantum Funds" (under George Solos) and the "Tiger Funds" have been one of the important forces, which caused the East Asian currency crisis. They borrowed a large quantity of the local currency and sold in the foreign exchange market against other key currencies.

Though theoretically, the money authorities can raise interest rate high enough to deter foreign speculators and substantially increase the speculation cost to borrow the local currency, these countries were experiencing marked slowdown of economic growth and falling of asset prices. Therefore the authorities were reluctant to raise interest rate to deteriorate this situation. The authorities were again in the dilemma.

The international speculators understand that no economies can bear too high interest rates in long run and at last the authorities will loosen the monetary condition. Therefore they dare to pay high cost of interest to borrow this currency and sell in the foreign market and wait for a sharp devaluation to earn the difference of the exchange rates.

Actually, according to the past cases, when selling of one currency has become the tide, a sharp depreciation of this currency is nearly inevitable and abolition of the pegged exchange rate regime is also expectable. So the government must calm down the market sentiment at the very beginning to prevent the strong expectation from becoming a tide. To make this successfully, the government has to demonstrate its determination and ability to maintain the pegged exchange rate regime. Obviously, a large quantity of foreign exchange reserves is necessary.

Table 5-8 shows in the crisis-hit countries, the ratio of short-term external debt over foreign exchange reserves has been very high and growing in the several years before the crisis started in 1997. The ratios in Indonesia, Thailand and Korean are quite similar to that in Mexico at the end of 1992 and mid-1994 when it was also experiencing serious currency

crisis. We can see that Malaysia and Philippines had maintained foreign exchange reserves above short-term foreign debt though the ratio also increased by 121.4% and 69% from the end of 1993 to mid-1997 respectively. It is one of the reasons that many analysts thought that these two countries were dragged into the crisis simply because they are the neighbors of Thailand and Indonesia.

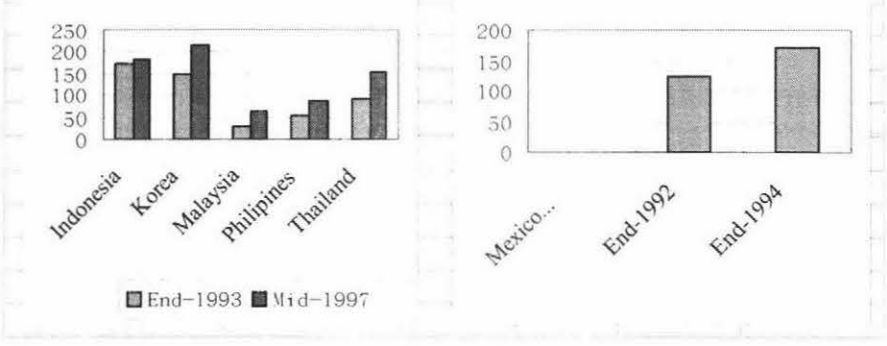
When international speculators targeted the East Asian countries, the central banks also acted to defend their currencies, including using their foreign exchange reserves to buy domestic currency, substantially raising interest rates. When the market sentiment to Thai baht is deteriorating, speculators believed that the foreign exchange reserves of Thailand central bank was not large enough to cover the withdrawing of short-term foreign debt and therefore attracted more and more speculators to sell Thai baht. Though the central bank of Thailand had already sold four-fifths of their foreign exchange reserves, about US$24 billion in forward exchange market as was reported, the selling pressure became stronger and more intensive. The Thailand central bank faced exhaustion of its foreign exchange reserves and finally had to give up the pegged exchange rate regime. (BIS, 1998)

It was also reported that only during the first two weeks of July, the central bank of Malaysia had sold 2 billions of US dollars (12.5% of its international reserve) to defend Malaysian Ringgit (BT Online, 23/07/97).

The central bank of Korea also actively intervened in foreign exchange market when it found that Korean won became the new target of speculators. In the second half of 1997, the "cumulative intervention by Korea in the spot and forward markets exceeded $21 billion." (BIS, 1998) But since these governments failed to convince the market that they were able to support their currencies, they had to abolish pegs eventually.

Table 5-8: Short Term External Debt as a Percentage of Foreign Exchange Reserves

	Indonesia	Korea	Malaysia	Philipines	Thailand	Mexico(Memo item)	
End-1993	171	148	28	52	89	End-1992	124
Mid-1997	182	214	62	88	153	End-1994	173



Source: Bank for International Settlement, *The 68th Annual Report* 1998

Chapter 6

A Prospect on the Recovery of the Asian Currency Crisis

Section 1: IMF-supported Programs and the Effectiveness

1.1 Economic reform and restructuring in crisis countries

After negotiations with the IMF, on August 20th, 1997, the Thailand government accepted the IMF financial support program, which included a US$17.2 billion IMF-led loan package. The other terms of the program are basically the conditions on which financial support is provided. It requires the Thailand government to restructure their financial sectors, to reform and enhance economic efficiency and transparency, to take fiscal measures to yield public sector surplus to facilitate external adjustment and provide resources to pay for financial restructuring, to further liberalize domestic financial markets and trade.

The economic structural reform also includes requiring financial institutions to increase contribution to the Financial Institutions Development Fund, requiring the central bank to improve the governance to financial institutions, abolishing subsidies to state enterprises, increasing privatization in its public sector, shutting down 56 finance institutions, and so on. The main purpose of the program is to rebuild the confidence of investors and recover economic growth.

The Thailand government has been strictly following the guide of IMF in its economic policy and structural reforming in the past one and half years. The measures of austerities includes cutting 59 billion baht in the 1998 Budget through conversion of short term credit from the central bank into equity and keeping domestic interest rates high enough to prevent massive capital flight and so on.

Under the guide of the IMF, similar financial support programs and reforms have been implemented in South Korea, Indonesia and Philippines as well.

As we have discussed in the previous chapters, the most important weakness of Korean economy is the fragile banking sector and the too high leverage of capital in many conglomerates. On 15th of April 1998, Korean government started executing the restructuring program for banking and financial sector, which stipulated that every bank must make a plan for operation normalization and re-capitalize to achieve the 8 percent capital adequate ratio recommended by the Bank for International settlement. Any banks that can not meet the requirements will be closed or restructured. As was disclosed by BIS (Dec.1998), by August 1998, in the banking-sector restructuring, 10 commercial banks were shut down because of insolvency and two banks were temporarily nationalized for later privatization. Some of other banks that were not able to meet the 8 percent capital adequate ratio were taken over by other banks or were required to present rehabilitation plans with sufficient infusions of new private capital. The Korean government also tried to diminish its influence in processing loan applications from the corporate sector.

Since the corporate sector hold most of loans issued by banks, the corporate sector restructuring is extremely important for the success of financial sector restructuring. The Korean government strictly followed the IMF-support program, having shut down 55 big corporations that were regarded by banks as insolvent. By the principle of privatization of state-owned companies, the Korean government has already sold 11 large state-owned companies and targeted another 6 large state-owned companies in the list for privatization. The government also required that corporations must re-capitalize to lower down the ratio of liabilities/equity to 200%, which were as high as 300% even 500% before the restructuring. Those conglomerates like Hyundai were required to decrease their operation scale and fields. For example, Hyundai has decreased its branches from 62 to 37 and the operation will be concentrated in automobile, chemical, heavy electric, electronics and building, so as to enhance its international competitiveness. (*lianhe Zaobao*, 29/11/98)

South Korea has also taken measures to attract foreign capital to the domestic investment market. The government revised its foreign investment law in the May of 1998, stipulating that except national defense industry, foreigners are allowed to purchase Korean state-owned companies and private companies, to deal in the securities market, financial industry

and real estate. Also the restriction on acquiring land and land utilizing right for foreigners has been reduced. These measures have attracted foreigners to come back South Korea. Investment, especially direct foreign investment has been increasing steadily. According to Korean Ministry of Finance and Economy (*The Asian Wall Street Journal*, 04/01/99), in 1998, the country received direct foreign investment plans totaling USD8.85 billion, up 27% from USD6.97 billion in 1997. What is encouraging is that foreign direct investment increased during the year and in December, and it hit a high monthly record of USD1.95 billion. At the beginning of 1999, some news in South Korea indicates that foreign direct investment will have a further increase in 1999. On the 4th Jan., 1999, Newbridge Capital Ltd., an American-owned investment firm signed a memorandum of understanding to acquire 51% of nationalized Korea First Bank for an undisclosed amount, the first foreign ownership of a Korean commercial bank. The deal hopefully will start a process of re-capitalizing Korea's ailing banks, in which foreign financial institutions will play an important role. Re-capitalizing banking systems to achieve the 8 percent capital adequate ratios will cost enormous funds. According to BIS (Dec. 1998), the funds will come to 20 to 30 percent of GDP in Thailand, Indonesia and South Korea. It will be too hard for these countries to finance this program, even with the financial support from IMF. So whether the countries can attract enough foreign direct investment is a key to the success of the banking sector and the corporate sector restructuring programs.

In Indonesia, the restructuring reforms focussed on domestic and foreign trade liberalization and removing subsidies, besides the troubled financial sector. Because of the political instabilities, the reform in Indonesia has not been as successful as that in Thailand and South Korea.

1.2 The effectiveness of the economic reform and restructuring

Though the measures of restructuring and reform have been criticized as a contribution in accelerating the aftermath painful experience of the crisis in short-term in the crisis countries, the programs have produced a certain effects, when the time came into 1999. The chief of the International Monetary Fund said in early January of 1999: "Among the IMF-rescued

countries, Korea and Thailand have made particularly good progress in achieving stabilization and implementing structural reforms" (*The Korean Herald*, 05/01/99).

According to the data disclosed on 1st of Jan. 1999 by the Thailand government (*Sintao Daily*, 02/01/99), beginning from the second half of 1998, the Thailand economy had regained stability gradually. The inflation rate decreased from 9.3% in January to 4.7% in November 1998. The inter-bank borrowing interest rate came down from 21.5% in January to 3.5% in November 1998, while the prime rate decreased from 21.51% to 17.75-12.75%. The country's export in 1998 increased by 5.1% year-on-year to USD55.76 billion, the trade surplus was USD8.9 billion, the current account surplus was USD11.06 billion and the foreign reserves increased to USD32 billion. Some foreign capital has returned to Thailand for cheap assets. In 1998, Thailand utilized USD7 billion foreign capitals. The Thailand government expected that in 1999, the inflation rate will further come down to 2.5-3% and the GDP will regain growth of about 1%. The Thai baht turned its depreciation trend and became stable in the market at around 36 baht against one USD in November, while in January 1998, it rate was around 53.

The speed of the economic recovery is faster than expected when the IMF-supported program was made. Since the fundamentals of Thailand economy has improved, the government planned to implement looser monetary polices to stimulate the economy and accelerate the economic recovery in 1999.

After the sharp devaluation of the Korean won, Korea's export recaptured growth gradually. According to the Commerce, Industry and Energy Ministry of Korea (*The Asian Wall Street Journal*, 04/01/99), though the total export in 1998 decreased by 2.2% to USD133.22 billion, the month-to-month export volume has indicated an increasing trend. The country's exports in December rose by 7.7% to USD12.88 billion from USD11.96 billion in the previous month, as shipments of semiconductors, computers and electronics goods improved. The country's total import in 1998 dropped by 35.4% to USD93.34 billion, but in December of 1998, import also increased by 4.3% to USD8.69 billion from USD8.33 billion in November, indicating the domestic demand began recovering. In 1998, South Korea registered a trade surplus of USD39.88 billion, compared to a trade deficit of USD8.45

billion in 1997. Obviously, the situation of balance of payment of South Korea has greatly improved. It is also expected that in 1999, the country's export will increase by 0.6% to USD134 billion, the import will increase by 16.8% to USD109 billion, and the trade surplus will reach USD25 billion.

In Malaysia, the Mahathir government turned down the financial support from the IMF. In September 1998, Malaysia took an extreme policy to enforce control on capital flow, restricting the outflow of foreign capital. It barred investors from taking out money invested in the stock and bond markets for one year as part of its sweeping capital control measures that also includes fixing a peg for its fluctuating currency.

In the past 4 months, the Malaysian government has eased and expended the money supply by about 20% of GDP. Malaysian government also undertook a series of public projects, in the hope to stimulate the recessive economy. Some experts worried that the expansionary policy of Malaysian government might push up the inflation, which would overvalue the Malaysian ringgit at the present level 3.8/USD. (Zheng, 1999)

On the 4th February 1999, Malaysia put an end to its much-criticized lock-in period for portfolio investments (*Hong Kong Standard*, 05/02/99). The new policy, which will be effected from the 1st September 1999, will allow portfolio investors to repatriate their capital and profits if an exit tax is paid. It encourages new capital inflows into the country, since the exit tax levied on investors would depend on the amount of time monies remained invested in the share markets, the longer the less. The exit tax will be 30 per cent on investments repatriated within seven months. The new policy imposes no exit tax on funds repatriated after 12 months, encouraging inflow of long-term investment. It is still too early to predict the effectiveness of this policy in properly guiding the flow of foreign capital, but their experience may be of some valuable implications to other countries in dealing with the volatility of foreign capital.

1.3 The unsatisfactory growth in exports in the aftermath of the currency crisis

Though most of the crisis-hit countries are gradually recovering from the recessions, regaining their external competitiveness in their currencies depreciation, the export growth in this region is not so satisfactory. As shown in Table 6-1, the export growth rates in 1997 and 1998 for the East Asia crisis countries were 7.9% and 15.3% respectively, which is much lower than 33% that Mexico gained in the following year of the peso crisis in 1994 (see Table 4-1). It indicates that most of the countries seem have failed to take advantage of their cheaper currencies. When we have a closer look at the world trade situation in 1997 and 1998, we may find several factors contributing to the differences in export growths in the aftermath of currency crisis.

Table 6-1: The Growth Rates of the World Merchandise Trade, 1991-2007 (%)

Table 6-1: The Growth Rates of the World Merchandise Trade, 1991-2007 (%)

	World trade	OECD ccountries		Developing countries		Japan		E.Asia crisis countries	
		Import	Export	Import	Export	Import	Export	Import	Export
1991-97	6.8	5.4	5.9	9.2	8.7	6.3	2.8	12	12.6
1997	9.5	9.4	10.7	8.8	9.8	1.7	11.8	3	7.9
1998	5.3	7.2	4.7	2.8	6.4	-7.6	-1.5	-17	15.3
1999	5.7	6.6	5	4.4	6.3	-0.8	1.2	4.9	8.1
2000	6.2	5.6	6.1	6.2	7	4	4.1	9.8	8.2
Note: data for 1998, 1999 and 2000 are estimated									

Source: Bank for International Settlement, *Global economic prospects,* 14/12/98,

Firstly, the Asian crisis has affected most of the countries in this region and hereby decreased the trade volume among them. In this region, 40% of the trade were conducted with each other. (BIS, 12/98) The economies of these countries suffered so much that economic growth slowed down in different scales and so did import demand. As was shown in Table 6-1, the imports growth rates of the East Asian crisis countries decreased from 12% in 1996 to 3% in 1997, and to -17% in 1998.

Secondly, Japan has been one of the most important export markets for other Asian countries. But Japanese economy has fallen into recession in 1998 and its import sharply

decreased by 7.6% in the same year. Moreover, the Japanese yen devaluated by the same direction as other Asian currencies in 1997 and 1998, which made other Asian crisis countries not gaining much advantage from their currency depreciation.

Thirdly, the declining in commodity prices in the world generated a large loss in the crisis countries regarding their terms of trade and income. According to BIS (12/98), "In the year to October 1998, energy prices fell 26 percent, agricultural prices 18 percent, and metals and minerals prices 16 percent." The prices of natural rubber, rice and timber, which were important export-goods of the East Asian countries, were pressed down by excess supply associated with currency devaluation. This is another factor, which makes the export figures of Asian crisis countries smaller than that some experts expected. It was estimated that the change in terms of trade had generated income losses almost as much as 3 percent of GDP.

Section 2: The uncertainties in the aftermath of the Asian currency crisis

Though some encouraging signs of recovery have emerged in the East Asian crisis countries as discussed above, and it is also wildly accepted that the worst time of the crisis has already gone, uncertainties still remain in the following aspects.

2.1 The Japanese economies and yen

Japan is the largest economy in Asia with 60% of the region's GDP, and has great impacts on the rest of the region through both trade and investment. As we have discussed in the previous chapters, the devaluation of the yen, the depression of Japanese economy and its shrunk import demand are also factors contributing to the Asian currency crisis.

Since Asia is the most important place of overseas investment and the most important export market of Japan (44% of the total exports of Japan happened in this region), the East Asian crisis had repaid a strong blow to the Japanese economy as well. According to *Hong Kong Commercial Daily* (26/01/99), the Asian trade surplus of Japan decreased by 36% year-on-year to USD34.9 billion in 1998. The Japan's surplus of trade with Malaysia, South Korea and Thailand dropped by 69.5% to 78.1% and its trade balance with China and Indonesia turned into deficit.

The crisis led to a sharp decline in Japanese export growth (see Table 6-1) and further deteriorated the bad-debt problems, which has been harassing the Japanese banking sector since the economic "bubble" burst in the late 1980s. The failure of several important financial institutions provoked collapse in consumer confidence, more bankruptcies, higher unemployment rate, lower asset prices, rising bad debt and tightening bank credit and so on.

The long standing strong yen and extremely low domestic interest rates in the 1980s and the first half 1990s had encouraged Japanese banks to place a lot of funds overseas. By June 1997, the total amount of short-term funds that Japanese banks had placed overseas was about USD319 billion. About USD270 billion, which was more than the amount of total capital of Japanese banks, was placed to Southeast Asian countries (An, 1998). Since a large percentage of the loans placed to East Asian countries were not repaid in time, many Japanese banks run into serious troubles. It is estimated that by September 1997, the total accumulated bad debt of Japanese banks reached about USD760 billion (Feng, 1998), which was the consequence of the bubble economy in late 1980s. The serious bad debt problem makes Japanese banks more cautious in releasing loans to businesses, which in turn produced a contraction in credit and equipment investment. This credit contraction especially affected the medium and small businesses. According to statistics, the total equipment investment of Japanese firms in 1998 decreased by 0.6% (Feng, 1998), the first negative figure in many years. The financial sector restructuring is the key determinant in the recovery of the Japanese economy.

The Japanese government began implementing the scheme of Financial System Reform or so-called the Big Bang in April 1998, with the aim of revitalizing the Japanese financial market commensurate with the international markets of New York and London by the year 2001.

The basic purposes of the Big Bang was to reform the current Japanese financial system, so as to create an efficient financial investment market for the huge financial assets of Japanese households, provide smooth funding for growing industries, and facilitate worldwide capital flows.

The measures of the Big Bang includes abolishing obstacles of markets access and financial cartels, to promote competition in the financial markets, to create a free, fair and global financial market.

To regenerate the vitality of Japan's financial market along with the promotion of these reforms, taking immediate care of the bad debt of banking institutions is certainly the first, and the important step. Since the reform of Japanese financial system involves the world's second largest economy's huge amount of bed debt rearrangement, the process will greatly affect the stability of the world financial market as well as the world economic growth. If the scheme is executed smoothly, the Asian crisis countries will recover faster, otherwise, another round of shock will come from Japan.

Facing the severe domestic economic reality, the Japanese Government also decided upon the "Emergency Economic Package" on the 16th of November, which totals over 17 trillion, or well over 20 trillion yen if the permanent tax deduction is included. This package was expected to stimulate the stagnated Japanese economy and gave an encouraging signal to the world economy. In terms of the importance of Japanese economy in the world, the success or not of the economic reform and restructuring of Japan, will be one of the most important determinants of the economic recovery of the Asian crisis countries.

2.2 Further contagion effects of the crisis

In August 1998, the East Asian crisis spread to Russia. The political disagreement and the fall in world commodities prices, especially in oil prices, which in part was due to the East Asian crisis, sharply reduced the exports earnings and government revenue of Russia. The massive withdrawing of foreign short-term capital caused a steep depreciation of the Russian rubble in a short period of time.

At the beginning of 1999, the crisis spread to Brazil. On the 14th January 1999, the central bank of Brazil widened the trading band of its currency from 1.12 - 1.23 to 1.2 -1.32 to the dollar. Coupling with the replacement of its central bank chief, the real fell about 8 percent to 1.30 to the dollar. But widening band further weakened the market confidence in the

maintainability of the pegged exchange rate regime of the real and triggered further capital out-flight from Brazil. On the 15th January 1999, the Brazilian government gave up supporting its embattled real. The real quickly fell when the Brazilian market opened. After almost four years of rigid policies under the economic stabilization plan, known as the Real Plan, implemented in 1994, Brazil chose to let real float in the market. At the end of January, the real touched its lowest at 2.07 and then found its relatively stable place around 1.80 in early February 1999 when this thesis was being finalized.

Brazil's effective devaluation gave another round of shock to the markets around the world, investors feared that Latin America would repeat Asia turmoil. The real devaluation also created another concern about emerging markets.

The currency crisis of Brazil has had the similar background in the fundamentals as that in the crisis countries. According to statistics (*Hong Kong Commercial Daily*, 15/01/99), under the shocks of the Asian crisis, the growth rate of Brazil decreased from 4% in 1997 to around 0.5% in 1998, and is expected to further decrease to -1% in 1999. The Brazilian government has a hard burden of internal and external debt servicing. By the end of 1998, the total internal debt was about USD300 billion and the external debt was about USD230 billion. In 1999, Brazil has a significant $28 billion in dollar-denominated debt to refund in the year. With the decreasing in foreign capital inflows in the aftermath of the Asian crisis, the central bank has to sell foreign reserves to finance foreign trade and external debt servicing, causing the amount of foreign reserves to decline substantially, from USD74.6 billion in 1997 to USD45.6 billion in 1998.

Learning the lessons from the East Asian currency crisis, and seeing the deteriorating external situation of Brazil, international investors are very sensitive to any changes in Brazil. The disagreements between the central government and the local government in Brazil in early January 1999 regarding debt repayment induced doubts on the possibility of finalizing the financial support arrangement of USD41.5 billion between IMF and the Brazilian government. The loss in confidence provoked international investors to withdraw capital from the Brazilian securities market. It was estimated that only on 12th and 13th of January

1999, the total outflow capital was over USD2.3 billion, and the interest rate was pushed up to 50%.

People worry that a new domino effect may ripple through out Latin America, mimicking the collapse of Asia's developing economies 19 months ago, if the situation cannot be controlled in short time. Unlike the previous victims like Indonesia, Malaysia or Russia, Brazil is a big U.S. trade partner and major destination for direct investment. The devaluation in Brazil may possibly encourage other nations in the region, particularly Argentina, to devalue as well to maintain its external competitiveness.

Brazil is also the eighth-largest economy in the world and it has huge trade flows In addition, many U.S. and Canadian banks are heavily exposed to debt in Brazil and Latin America. According to *Mingpao Daily* (15/01/99) Brazil is the 11th largest market for U.S. exports, accounting for about 2.2 percent of all the U.S. exports, while all of the South and Central America, excluding Mexico, take about 10 percent of the U.S. exports. The impact on the U.S. economy could be magnified if devaluation spread to Mexico, the nation's second largest export market. By the end of June 1998, among the total external debt of Brazil, USD16.78 billion were from the US, USD12.86 billion from Germany, USD7.92 billion from France, USD7.04 billion from Holland, USD5.81 billion from England, USD5.18 billion from Japan and USD20.78 billion from the rest of world. The repayment crisis of Brazil will seriously buffet the capitalist world.

Therefore, the possibility of further contagion of Brazilian currency crisis is another important uncertainty in the international financial markets.

2.3 The sustainability of the Hong Kong dollar and the Chinese RMB

In the wake of Brazilian currency crisis, people again worry about the sustainability of the pegged exchange rate regimes of the Hong Kong dollar and the Chinese RMB.

Maintaining the Hong Kong dollar pegged system is the policy that the Hong Kong government has been pursuing. The question is; is the peg really sustainable?

By the end of October 1998, the Hong Kong government held foreign reserves for USD88.7 billion. In terms of foreign currency reserves ranking, Hong Kong remains the fourth largest in the world, after Japan, China and Taiwan. With potential support from the central government, which has foreign reserves USD140 billion, the Hong Kong government is in a strong position to support its peg. Since the outset of the Asian currency crisis in mid-1997, the Hong Kong dollar has experienced several times of speculative attacks. With the huge foreign reserves at hand, the Monetary Authority of Hong Kong (MAHK) has successfully defeated the speculators and maintained the peg. In August 1998, the MAHK spent an estimated USD 20 billion in defending the HK dollar and supporting its securities market. This action wiped out short positions taken in securities market and future market by speculators.

Maintaining the pegged exchange rate has protected Hong Kong from more serious shocks from the Asian crisis in the short-term, as that happened in Thailand and South Korea, but it also makes the Hong Kong dollar relatively overvalued and thereby deteriorated its external competitiveness. The effects of the Asian crisis were still badly felt during the second half of 1998. While some of these countries like Thailand and South Korea have shown marked growth in the exports, especially in the second half of 1998, Hong Kong and China have experienced negative growth in exports. According to the Census and Statistics Department of Hong Kong (*Singtao Daily*, 29/12/98), Hong Kong exports dropped 22% and 9.3% in October and November 1998 respectively and the trade deficit of the first 11 months was over HKD70 billion (about USD9 billion). The unemployment rate also steadily rose during 1998. The seasonally adjusted unemployment rate for the period September -November 1998 was 5.5, which was the historical high in Hong Kong. In the July-September quarter, Hong Kong GDP shrank 7% from a year earlier, the biggest contraction ever, due to plunging consumer spending and capital flight triggered by the Asian currency crisis. The GDP in 1998 was expected to shrink by 5%.

The lesson of Thailand and South Korea shows that the sustainability of a peg, in a certain scale, depends on a solid banking system that can function effectively as an important source of funding under volatile market conditions. In the financial crisis, the sharp falling of assets

prices threats the safety of bank loans for the more serious bad debt problem. The bad debt ratio in the banking sector was 2.08% in the first season but raised to 4.92% in the third season of 1998, and is expected to reach 9% in 1999. (*Lianhe Zaobao*, 29/12/98) in January 1999, the Hong Kong banking sector was experiencing a major trouble with the bankruptcy of Guangdong International Trust and Investment Corporation (GITIC), which left banks in Hong Kong bed debt for amount over USD2 billion. It was believed that this is the beginning for the shocks from troubles in the corporate sector, as a result of sharp decline in asset market.

The vulnerability of the Hong Kong dollar peg mainly originated from the bubble economy in the past years because of over-heated real estates market and high wage level. Though some technical measures made by Hong Kong Monetary Authority (HKMA) in August 1998 can give better protection for the peg, the existing inconsistency still leave potential for de-linking of the peg. As we have discussed in chapter two, the inconsistency does not necessarily require adjusting in the level of exchange rate, proper adjustments in fundamentals can also recover the equilibrium of foreign exchange rate and maintain the pegged exchange rate regime healthily. The shocks from the Asian currency crisis have obviously forced the adjustments to occur in pressing out the bubbles from the Hong Kong economy through prices falling in property market, securities market and labor market and so on. But the question is whether the adjustment is sufficient for the Hong Kong dollar to reach a new equilibrium.

A serious answer to this question may need comprehensive work on many aspects. But subject to the size constraint of this thesis, I just want to focus on the doubt that the market forces, together with the strong interventions from the Hong Kong government in the stock market and real estate market, have worked completely in adjusting the economic fundamentals. The supportive policies of the Hong Kong government have cushioned the severity of the shocks from the financial crisis, but they might also lengthen the process of economic adjustment. As shown in Table 6-2, during the period from the beginning of 1997 to the end of November 1998, the wage level in Hong Kong remained nearly unchanged, while the same figures in crisis countries, Thailand, South Korea, Philippine, Malaysia and

Indonesia, decreased by 29% to 69.1%. This difference, to a certain degree, reflects the changes of external competitiveness among these countries. It is one of the main reasons why many economists expects the Hong Kong economy may recover from the crisis in 2000, while Thailand and South Korea possibly in mid-1999.

Table 6-2: Percentage Changes of Wage in Selected Countries (from 01/01/97 to 30/11/98)

	Hong Kong	Singapore	Taiwan	Thailand	South Korea	Philippine	Malaysia	Indonesia
Change (%)	-0.1	-15.2	-15.2	-29	-31.5	-33.2	-33.5	-69.1

Source: *Singtao Daily,* (05/11/98)

Though the Singapore dollar has only moderately depreciated in the currency crisis, its economy has also been experiencing similar adjustments as those in Hong Kong in the stock market, the asset market as well as the wage level. The Singapore government has even called for 12% wage reduction in the whole nation to enforce further adjustment in price level in the hope that Singapore's competitiveness may recover soon. Compared with the Hong Kong government, the Singapore government is doing better though both of them are active in the economic intervention. If the Hong Kong government wants to maintain the peg in long term, it has to let the market to adjust the prices level so that the equilibrium between the economic fundamentals and the exchange rate is regained.

1998 was a hard time to China. Though it achieved 7.8% GDP growth rate in 1998, the fastest economy in the world, the flat in export growth and the problems like bad debt in its banking sector still worry many economists.

As shown in Table 5-4, the ratio of Export/GDP has increased steadily in the past ten years, especially in the years after 1994 when China devaluated its currency RMB by 50%. It reflects that export has been becoming more and more important to the Chinese economic

growth, especially when looking at the declining in the GDP growth rate since 1992. So the stagnation in export will further slow down the economic growth in China.

The continuing growth in export before the mid-1998 once made some economists argued that the Asian crisis would not affect Chinese export. The time-lagged shock, however, still came during the second half of 1998. According to *Hong Kong Standard* (05/01/99), the export in October 1998 decreased by 17% compared to the same month in 1997. In November 1998, the figure fell 8.9%, contributing to a negative 0.3% of the yearly export growth rate. Though the Chinese government has take measures such as raising tax rebates for exporter, which the US complains to be an unfair subsidy, to encourage export, people still expect that China will suffer further decrease in its export growth.

The extra external competitiveness that China obtained in 1994 through sharp devaluation of the RMB has diminished during the East Asian crisis. Many economists argue that growth in China around 8% is necessary to keep unemployment under control and the unemployed from rioting (Forney, 1999). Social and economic stability is the number one priority of the Chinese government, therefore it is trying to boost the depressed domestic economy by increasing fiscal spending on public projects, dams, dikes, highways and the like. In the short term, these measures will probably work to increase domestic demand. In the long term, the effectiveness is still in doubt, especially when most of the increased spending is mainly put into state-owned enterprises to keep people employed. According to a survey of 58,000 Chinese state-owned companies in December 1998, half of them are unprofitable, 3% higher than in 1997. (Forney, 1999)

As other crisis-hit East Asian countries, China has the same problem in its financial sector. Though Mr. Dai Xianglong, the Governor of the People's Bank of China, claimed that only 6% of the bank loans in China are actually unrecoverable, some private researchers have estimated that about 50% to 60% of bank loans are non-recoverable. (Zhang, 1998) Undoubtedly, the restructuring of the financial sector is the key for the success of China in economic adjustment. To finance the re-capitalization of banks, the Chinese government began issuing special government bond of RMB200 billion (USD24 billion) in 1998. It is a good step to solve the problem, but the process of restructuring will still be very difficult.

Since the purpose of the restructuring is to liquidate the bad assets of banks and it would cause many bankruptcies in the state-owned corporate sector, likely leading to an adverse impact on social and economic stability.

The foreign exchange control in capital account has insulated China from the worst of the Asian financial crisis by denying speculators access to the currency. The huge foreign reserve has also stabilized the market sentiments for a devaluation expectation. So whether the RMB will devaluate in 1999, mainly depend on the decision of the Chinese government. There are two main considerations for the Chinese government to stabilize the RMB exchange rate.

Firstly, China wants to help Hong Kong to maintain the peg of the Hong Kong dollar. The social and economic stability of Hong Kong is the first priority of the Chinese government after it took over its sovereignty. The chaotic situation in the crisis-hit countries following the abolition of pegs made the Chinese government more determined to maintain the stability of the HK dollar and the RMB.

Secondly, China has a huge foreign debt as big as USD130 billion. If only 10% depreciation on RMB would cause a huge increase in its debt volume when denominated in RMB.

Thus, it is still believable that the HKD will remain in pegged exchange rate regime and the exchange rate of the RMB will also be maintained stable in 1999. However, with the relative overvaluation of the HKD and RMB, China and Hong Kong will experience longer economic adjustment.

In conclusion, most of the Asian crisis countries have gradually regained their external competitiveness in the sharp depreciation of their currencies and have achieved growth in their exports. However, the economic recovery of these countries will still depend on several factors, among them, are the effectiveness of the economic reform and restructuring in Japan, the possible further contagion of Brazilian currency crisis, and the possibility of the stable exchange rates of the HKD and the RMB in 1999. The Asian currency crisis is possibly coming to the end and the crisis economies could possibly come out from the aftermath economic recession in late 1999.

Chapter 7

Conclusions and Implications for Policies

Section 1: Conclusion on the origins and causes of the Asian currency crisis

The rigidity of the pegged exchange rate regime determines that the long-standing pegged exchange rate is unable to reflect the changes in the fundamentals of the East Asian economies and therefore has produced inconsistencies between the exchange rate and the fundamentals. Our analysis shows that the origins and the causes of the Asian currency crisis mainly includes the following points:

Firstly, a number of factors had caused the inconsistency of pegged exchange rate regime and the economic fundamentals of the East Asian countries. The rising real wage level in these countries had gradually diminished the labor cost advantages, deteriorated the external competitiveness, which led to stagnation in export. The emerging of China in the international capitalist economy had weakened the relative competitiveness of other East Asian countries, especially when China RMB devaluated by 50% in 1994.

The large percentage appreciation of the US dollar, especially against the Japanese yen, made the currencies of the East Asian countries relatively over-valued, since these countries did not have the same fundamentals of the US economy. It seriously hurt the foundation of the pegged exchange rate regimes of these currencies.

The relatively over-valuation of the currencies in these countries need adjustment in their exchange rates to regain competitiveness.

Secondly, the cyclical decline in worldwide demand combining with the over-investment in semiconductor, petrochemical, steel and automobile manufacturing in the East Asian countries had hit major industries, bringing operation difficulties to many companies and leading problems in foreign debt servicing. The problem of over-investment in some of the industries of the East Asian countries lowered the return rate of investment and discouraged

the inflow of foreign direct investment. The declining in asset prices like stocks and real estates indicated the burst of economic bubbles and made these countries no more attractive to foreign investors.

Thirdly, the massive inflow of foreign capital in the first half of the 1990s had financed a big deficit on the current account, satisfying the extra demand for investment, and at the same times increased the amount of the foreign reserves of these countries. The pegged exchange rate regime restrained the governments from appreciating their currencies to decrease the over-inflow of foreign capital in the first half of the 1990s, which had contributed to the form of the economic bubbles. When foreign capital stopped inflow but began massive withdrawing in 1997, the economic bubbles burst and a depreciation of the currency became unavoidable.

Fourthly, these East Asian countries had liberalized their domestic financial markets, but at the same time they had not built a sound financial sector and a good regulatory system on the flow of foreign capital, which made them vulnerable to massive withdraw of foreign capital when markets lose confidence. The long running pegged exchange rate regimes and the high economic growth rates in the East Asian countries had encouraged over-borrowing in foreign capital, especially short-term private credit. A large volume of foreign short-term capitals were used in low return projects or non-tradable good industries like real estates, which were not able to provide foreign exchange earnings to service the foreign debts. The currency crisis cause more difficulties in the US dollar denominated foreign debt servicing, which led to banking crisis and further deteriorated other aspects of the economies.

Section 2: Implications

From the East Asian crisis, several implications can be drawn.

Firstly, the pegged exchange rate regime refrains the governments from adjusting the domestic economy when over-heating in their economies are observed. When the economy is experiencing over-heating, tightening up the monetary condition is required to lower demand for investment and consumption. But under the pegged exchange rate regime,

raising the domestic interest rate would increase the attractiveness of domestic financial assets, which would further increase inflow of foreign capital and further enlarge the economic bubbles. Moreover the pegged exchange rate regime would encourage domestic investors to borrow foreign capital at a lower rate without any hedging arrangements. This point makes economies under protections from a pegged exchange rate regime weaker in reacting to shocks from international markets. A pegged exchange rate regime might accumulate inconsistencies with the fundamentals of the economy and become extremely vulnerable when facing speculative attacks.

The East Asian crisis including the present Brazilian real crisis has increased people's doubt on the rationality of maintaining a pegged exchange rate regime in the present world, which has become more and more integrated and liberalized. With the growing flow volume of hot money in the international financial market, it is getting more and more difficult to maintain a peg. The Hong Kong dollar and the Argentina peso are the only two fully convertible currencies that are still pegged to the US dollar. The Hong Kong dollar may remain in peg with the strong foreign reserves of Hong Kong and its central governments. But remaining in peg will cause Hong Kong economy an opportunity cost of being harassed by time to time speculative attacks.

Secondly, the outside-oriented strategy of economic development had brought outstanding prosperity to many East Asian countries, but at the same time made them more vulnerable to changes in international markets. These countries had benefited greatly from steady growth in their export, but at the same time they became more dependent on the demand growth from outside market. As the outside demand decreased in 1996 and 1997, the export and then the economic growth was affected directly. So upgrading technological level of economy is important to increase and maintain the external competitiveness and increasing the domestic demand is also necessary to the stable development in long term.

Most of East Asian countries like Thailand and South Korea had experienced tremendous growth in capital inflows in 1980s and the first half of 1990s, and these inflows had led to the easing of external financing constraints, increased savings and investment, and phenomenal economic growth. In addition, capital inflows had facilitated the transfer of

technology and management skills, and enlarge market access for products manufactured. However, foreign capital is a two-edged sword. These rapid inflows had led to excessive lending and to bubbles in equity and property markets. In terms of volatility and long term benefit, foreign direct investment by no means is the optimal kind of foreign capital to developing countries. One of the important reasons that China has escaped from currency depreciation is that most of the imported foreign capitals were direct foreign investment. But it remains a challenge to developing countries that how to guide foreign capital flows in the countries and how to encourage inflows of direct foreign investment instead of short-term foreign capital. The exit tax of Malaysia is a good attempt in this field and would provide valuable implications.

The Asian currency crisis shows that when a crisis happens in a country, other countries, especially those that have close economic relations with the crisis country cannot keep themselves immune from contagion, even if their fundamentals are sound. A crisis happened in a country might induce a pessimistic sentiment in the financial market. The sense of risk management makes foreign investors withdraw their capital from other countries that are regarded as having the same vulnerabilities such as high external debt, even though they might not be as serious as in that crisis country. But the shocks from the massive withdrawing of foreign capital and the consequent high interest rate level are often beyond the bearable scale of many countries. It reflects the importance of a sound financial sector and good supervisory and governing abilities of the government when liberalizing its foreign exchange market, especially on capital account. A rush for financial liberalization would only generate vulnerabilities to the economic system. A sound supervisory and regulatory capability is required before liberalizing the domestic financial market. Josoph Stieglitz (1998), the chief economist of the world bank, holds conservative opinions on the liberalization of financial markets in developing countries. He said that too hasty opening the domestic financial market would cause over competition in the financial market and hurt the stability of financial markets.

This point is especially relevant to China, which has been in the process of opening its domestic financial markets. China's currency is now convertible only on current account, but

not capital account. The foreign exchange control on the capital account had sheltered China from the Asian Chaos. Though China insisted that it is still undertaking financial reform leading to fully convertible RMB, a longer time is expected to reach that stage. As Zhu Rongji, the Prime Minister of China said in March 1998: "we will achieve that objective when the supervisory and regulatory capabilities of the central bank of China are to up to standard." (Savadove, 1998)

In many East Asian countries, like Japan, Thailand and China, the financial sectors have been troubled with huge bad debt---the consequence of the bubble economies in the past years. The unsound financial sector can not exercise its function of pooling social funds and allocating credits effectively and efficiently as it is supposed to. It is unhelpful and hazardous to the economic recovery and further development of these countries. The Asian crisis shows that the solution, the only solution to this problem is to liquidate unsound assets and restructure the troubled banks and non-banking financial institutions. The process will bring short-term pain but long-term healthy development as well. Any attempts to protect the ailing financial institutions and avoid such banking system reform would just result in longer-lasting pain, as was described as "Japanese disease", originated from the bubbles in the late 1980s. ----------End----------

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