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THE ASIAN FINANCIAL CRISIS

The financial crises in developing countries, especially in Latin America, throughout the decades from the 1950s to the 1970s involved depressed financial systems, increased government deficits, and fixed exchange rates. In a depressed financial system, interest rates are controlled at lower than equilibrium levels so as to reduce the cost of lending. At the same time, the government runs a large fiscal deficit, which is usually financed by external debts, or alternatively, by an inflation tax, or by a high reserve requirement imposed on the commercial banks. The government deficit is high and the inflation rate increases but the exchange rate is fixed. Accordingly, the government has to draw down its foreign reserves to protect the exchange rate. A shock, such as a deteriorative change in the terms of trade that leads to an increase in the foreign trade deficit, leads to a speculative attack on the domestic currency and makes the foreign reserves dry up. The government is forced to abandon the fixed exchange rate regime and devalue the domestic currency. This is a typical description of a *currency crisis*.

Another aspect of the financial crisis is the *banking crisis*. As people lose their confidence in the banking system, they start a run on the banks. With limited reserves, the banks may quickly fall into insolvency. However, a banking crisis similar to the British one of the 19th century can be prevented by the central bank playing the role of lender of last resort. The crisis becomes more serious if the banks have lent money to risky, inefficient projects. Things often go wrong when regulations on prudent financial operation are not available or effectively enforced, and loans are implicitly bailed out. This gives rise to moral hazard and leads to incautious lending. As a result, the bad debt ratio increases; and the banks lose money and go bankrupt.

A currency crisis and a banking crisis can come together and lead to the so-called *twin crisis*. Then, the financial crisis turns more serious and leads to a socio-economic crisis. For instance in East Asia, the early speculative attacks on the baht in July 1997 caused the Thai government to protect the currency with its foreign reserves. When the foreign reserves had almost dried up, Thailand was forced to float the exchange rate. The crisis spread rapidly to other East Asian countries. The domestic currencies of Korea, Indonesia, Malaysia, and Philippines came under pressure. The devalued domestic currency and increased interest rates made enterprises that had previously borrowed in foreign currencies default. The enterprises' problem quickly became the financial institutions' problem, and a banking crisis came about.

A common explanation for the crisis focuses on problems in the economies, especially in their financial systems. The directed credit allocation (with loans implicitly bailed out by the government), though proven to be successful during the early stages of industrialization, led to overinvestment,

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corruption, and inefficiency in the use of capital. Crony capitalism in East Asia also contributed to the distorted credit allocation.

External elements accompanied the weaknesses in the local financial systems. Financial liberalization, ranging from an increase in the domestic interest rates to deregulation and an open capital account, was promoted, while the supervision mechanism was inadequate. These policies, together with a fixed exchange rate regime, encouraged capital inflows, most of which were short term. Domestic banks, which had enjoyed easy access to foreign capital, increasingly lent money to local enterprises. As a result, a great deal of firms borrowed short-term funds at high interest rates, but invested in risky, long-term projects. The financial system was becoming increasingly vulnerable.

Another explanation attributes the run on the banks to the loss of foreign investors' confidence in East Asia. Given the successful growth of the region, the East Asian economies received huge capital inflows. It was the bank runs that made East Asia, like the banks, default. Hence, the remedy is an institution that plays the role of "the lender of last resort".

The third explanation is that the East Asian crisis occurred because of attacks by speculators and investment funds which arbitraged on securities in order to benefit from the financial collapse.

In the following sections we will discuss the reasons for the crisis based on the three explanations above. Each explanation emphasises different reasons.

I. The first explanation – Moral hazard and the investment bubble

1. Moral hazard

Since the early 1990s, financial liberalization has been undertaken at a gradual pace in most of the East and Southeast Asian economies. However, credit allocation under the government's direction has been pervasive in many countries such as Korea, Indonesia, Malaysia, and Taiwan. When credits are directed, supervision mechanisms and regulations on prudent operation are often overlooked.[1] Furthermore, when the banks extend credits under the government's direction, it is assumed that the government will bail out if it becomes difficult to reclaim the debts. Even in economies such as Thailand where the government has intervened less in credit allocation, people who had invested in the finance companies still believed that they would be secured when they considered the political connections enjoyed by the finance company owners.

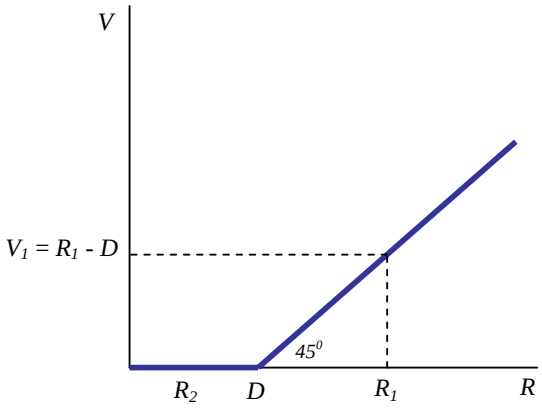
Accordingly, even though there was no bailout from the government, the financial institutions in East Asia, especially the state-owned banks or the large banks, had considered themselves "too big to fail." Krugman (1998) suggested that the East Asian crisis had mainly arisen from the existence of moral hazard in the financial systems: the implicitly secured financial institutions had incentives not only to undertake risky investments, but also to pursue all projects of low return if they could provide high profits under a successful outcome. Below is an illustrative example.

Suppose a finance company has borrowed an amount of D, which will have to be paid back in one year. The firm invests this amount into a project that will generate a net revenue of R after one year. If $R >= D$, the firm can repay the loan and still earn a profit of $V = R - D$. If $R < D$, the firm will go bankrupt and pay back the amount of R; the difference will be compensated by the government (because the owners of the finance company have good political connections).

[1] Regulations on prudent operation include a minimum equity to debt ratio, a maximum credit line offered to a single borrower, supervision of accounting to clarify non-performing loans, and so on.

Figure 1 describes the profit received by the firm, with the net revenue R, shown on the horizontal axis and the profit V, on the vertical axis.

Figure 1: Implicitly bailed out investment



The firm earns nothing with any $R < D$, while it receives a profit of $R - D$ along the 45^0 line, given $R > D$. In other words, $V = \max[0; R - D]$.

It is as if the finance company has a call option. Here the underlying asset is the investment project whose value equals its net revenue, R. The strike price is the value of the debt, D. The option expiry is one year.[2]

After one year, if the net revenue is higher than the debt, the firm will pay the debt. In other words, it will exercise the call option, and earn a profit of $R - D$. If the net revenue is smaller than the debt, the firm will not exercise its call option, and receive nothing.

The option theory tells us that the more the underlying asset price fluctuates, the higher the value of the option is, due to the higher probability of benefit from the option at maturity. Accordingly, the riskier the investment is, the more the firm benefits at maturity. This is why finance companies often invest in risky projects when they are bailed out. Furthermore, the finance companies especially prefer investing in potentially high revenue projects even with a low probability of success.

2. Foreign capital flows

The determinants of the East Asian crisis were not only confined to the domestic context but also came from outside. Private capital inflows into developing countries increased fivefold to USD256 billion in 1997 from USD42 billion in 1990. East Asia attracted the greater part of these inflows, accounting for 60% in the first half of 1990s (see World Bank 1998).

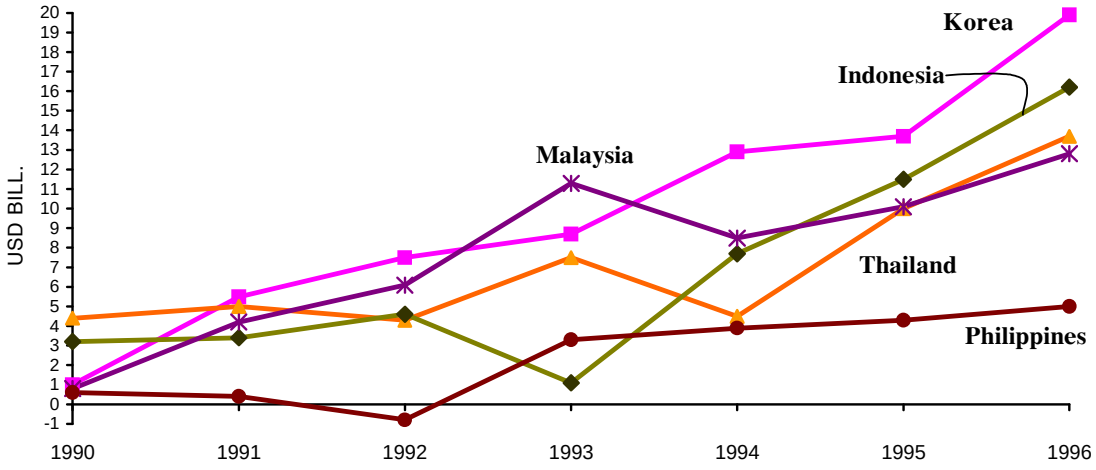
Table 1: Private capital inflows into the East Asian countries (Korea, Thailand, Malaysia, Indonesia, and Philippines), 1991-96, USD billion

	1991	1992	1993	1994	1995	1996
Net private flows	24.8	29.0	31.8	36.1	74.2	65.8
Net foreign direct investment	6.2	7.3	7.6	8.8	7.5	8.4
Net portfolio investment	3.2	6.4	17.2	9.9	17.4	20.3
Commercial and other loans	15.4	15.3	7.0	17.4	49.2	37.1
Net official flows	4.4	2.0	0.6	0.3	0.7	-0.4

Source: World Bank, "*World Economic Outlook*", 5/1998 and 3/2000.

[2] See the lecture on options in the Financial Analysis course.

Figure 2: Private capital inflows into the East Asian countries, 1990-96



Source: Calculated from World Bank – *World Development Indicators 2002*.

The low rates of return available in developing countries and the East Asian growth miracle were incentives for capital inflows to the East Asian economies from Japan, the US, and the EU. The interest rate spreads between the East Asian economies and the international monetary centers were always positive. Private capital inflows were increasingly promoted with the expansionary monetary policy in the US in the mid 1990s, financial deregulation in Europe, and the bubble yen in Japan. In addition, some East Asian governments (such as Korea) opened their capital accounts in a direction that encouraged short-term capital. In particular, Korea had restricted long term investments in the form of FDI or portfolio investment, while the banks were only allowed to borrow short term foreign funds. The fixed exchange rates maintained by many East Asian governments were another factor that also encouraged foreign capital inflows, since the exchange rate risk was eliminated. Clearly, lower foreign interest rates relative to domestic interest rates, and fixed exchange rates are incentives for domestic financial institutions and businesses to borrow external capital.

Moral hazard also arose in foreign capital flows. When lending money to domestic financial institutions, foreign investors implicitly assumed that their loans would be bailed out by the government of the host country, given the close relationship between the government and domestic banks. When an economy is growing well, and foreign capital inflows are available, no one considers it might become impossible to extend a debt or make a new loan as the previous one falls due.

The capital inflows led to a credit boom in the region. Bank credits extended to the private sector had been increasing rapidly during the 1990s. Financial claims on the private sector had increased to 140% of GDP for Korea and Thailand by the end of 1996 (Table 2). The money supply (M2) in Korea, Thailand, the Philippines, Malaysia, and Indonesia increased nearly 20% per year between 1996 and 1997.

Table 2: Financial claims on the private sector relative to GDP (%)

	1991	1992	1993	1994	1995	1996
Korea	103.1	110.7	121.3	128.8	133.5	140.9
Thailand	88.6	98.4	110.8	128.1	142.0	141.9

Source: Radelet and Sachs (1998).

It is worth noting that a series of short term loans had been put in long term investments. Thailand's foreign debts were mainly made via banks and finance companies. The Korean banks also borrowed from abroad. For Indonesia, enterprises borrowed directly in the "overseas" capital market (World Bank 1998). Table 3 shows East Asian short term debts relative to their foreign reserves before the crisis. Only two countries, Malaysia and the Philippines, among the five crisis hit countries, had foreign reserves higher than their short term debts. Higher short-term debts relative to foreign reserves imply insolvency in the short term.

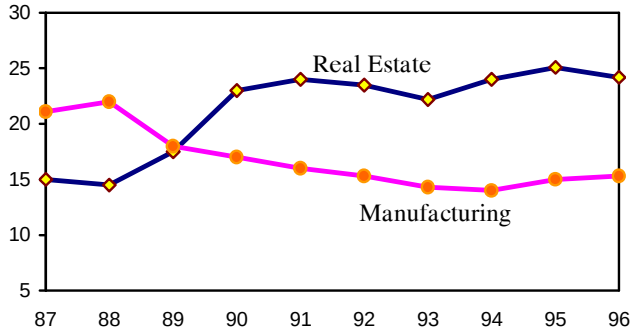
Table 3: Short-term debts in the second quarter of 1997

	Short-term external debt (USD billion)	Foreign reserves (USD billion)	Short-term debt/foreign reserves ratio
Korea	70.18	34.07	2.06
Thailand	45.57	31.36	1.45
Indonesia	34.66	20.34	1.70
Malaysia	16.27	26.59	0.61
Philippines	8.29	9.78	0.85

Source: ADB, "*Asian Development Outlook*", 1999.

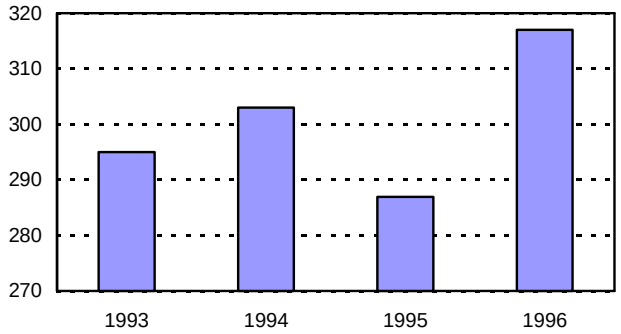
A large proportion of bank loans and non-bank financial institution loans had concentrated on real estate. In Indonesia, loans in real estate increased by 37% per year during 1992-95 (while total bank credit only increased by 22% per year). In Thailand, loans extended by financial institutions in real estate increased by 41% per year between 1990 and 1995 (while the total credit only increased by 33% per year). In Korea, bank loans were mainly focused on the *chaebols*. In Figure 4, the debt to equity ratio for the large Korean industrial firms had risen to 317% by the end of 1996 (compared to 100% in the US).

Figure 3: Loans to the real estate and manufacturing sectors for Thailand (Share of total outstanding loans)



Source: Marcus Miller and Pongsak Luangaram (1998).

Figure 4: Debt to equity ratio in the Korean manufacturing sector (%)



Source: Marcus Miller and Pongsak Luangaram (1998).

3. Asset bubbles

A consequence of moral hazard and risky investment is an increase in asset prices. The existence of moral hazard encourages increased investment by financial institutions despite low expected rates of return. If investment is concentrated on an asset of which the supply is relatively fixed (such as real estate which most Thai firms had invested in), the asset price will rise. Self-fulfilling expectations then appear. People invest in real estate because they expect an increase in the real estate price. When increased investments make the demand go up, the real estate price actually does rise as expected. A price bubble develops. The financial institutions are willing to continue to lend money in real estate investments since they find it "safe" (that is when land is used as collateral and the land price is soaring). Let us look at an illustrative example:

The land price currently is $100. A finance company mobilizes $100 for an investment bailed out implicitly by the government. There are three possible scenarios with the same probability: (i) a 'good' scenario where the land price would increase to $127; (ii) a 'normal' scenario where the land price would remain at $100; and (iii) a 'bad' scenario where the land price would reduce to $73. The expected price of land is $100.[3]

Since the investment is bailed out, the finance company would not lose $27 in the bad scenario; the government would lose this amount. Hence, the expected return is (1/3)* (27 + 0+ 0)= $9. With this expected return, all investors would rush into buying land, and the land price would go up: 100 + 9= $109.

With the increased price of land of $109, the finance firm would be still willing to pay $109 for land, since it would still benefit $18 (=127-109) in the good scenario, and lose nothing in the other scenarios with the government's support. The expected return is (1/3)* (18 + 0+ 0)= $6. People would continue to rush into buying land, and the land price would not be $109, but increase to $115 (=109+6).

At the price of $115, the finance firm would continue to invest.The return would be $12 (=127-115) in the good scenario, and the government would compensate for losses in the other scenarios. The expected return is (1/3)* (12 + 0+ 0)= $4. Competition in buying land would push the land price up to $119 (=115+4).

[3] Assume the above values to be the present values non-discounted values.

How much will the land price go up? As long as there is a positive return in the good scenario (i.e., the land price is less than $127) people will still buy land, and the land price will continue to rise. When the land price reaches $127, the expected return is zero, and the land price will stop rising.

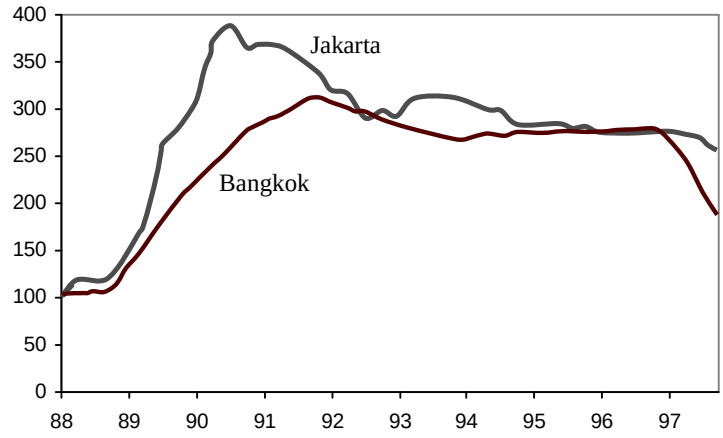
Hence, the land price is $100 without moral hazard. In the presence of moral hazard, the land price is $127. In other words, land is valued as if there is only the good scenario. Table 4 summarizes the outcomes.

Table 4: Speculative price with moral hazard

In-vest-ment	End-of-period land prices with the same probability			Expected return	Land price
	73	100	127		
	Returns in the three scenarios				
100	0	0	127-100=27	(1/3)*27 = 9	100+9=109
109	0	0	127-109=18	(1/3)*18 = 6	109+6=115
115	0	0	127-115=12	(1/3)*12 = 4	115+4=119
119	0	0	127-119=8	(1/3)*8 = 2.67	115+2.67=121.67
…	…	…	…	…	…
127	0	0	127-127=0	0	127+0=127

The asset bubble must burst as it is too big. It comes at the time when investors find that reality is unlikely to turn out as their expectations. A reverse process occurs. People sell their assets since they expect a decrease in price. The assets are sold quickly, so their prices actually reduce. The banks see a reduction in the collateral price, and hence, they stop lending and claim back the old loans. Investors have to sell more to repay their debts. The asset prices thus fall, and usually plunge below the initial equilibrium levels. Figure 5 shows a quick increase in real estate prices at the end of 1980 and a collapse in 1997 for Thailand and Indonesia.

Figure 5: Price indices of office buildings in Thailand and Indonesia



Source: Marcus Miller and Pongsak Luangaram (1998).

4. Macroeconomic imbalances

Since 1996, growth rates have been slowing down in the East Asian economies. The export growth rate reduced to 4% in 1996 from 19-21% in 1995. The reasons are: (i) the growth of global trade has been reducing; (ii) the yen has depreciated; (iii) the real effective exchange rates have appreciated for East Asian countries; (iv) the quantities demanded and prices of exports, especially in electronics, have decreased.

Table 5: Export growth in East Asia (%)

	1994	1995	1996	1997
Thailand	19	20	-1	3
Korea	14	23	4	5
Malaysia	20	21	6	1
Indonesia	8	12	9	7
Philippines	17	24	14	21
Hong Kong	11	13	4	4
Singapore	24	18	5	-1
Taiwan	9	17	4	4
China	25	19	2	21

Source: World Bank, "*East Asia – The Road to Recovery*", 1998.

This is most clearly revealed in Thailand. The baht fixed against the dollar had made the real exchange rate appreciate (as the dollar had continuously appreciated against the yen). In 1996, the current account deficit was 8% of GDP for Thailand, while the figure was in the range 3.4-4.8% for the other four countries. The deficit was financed by the short-term foreign capital inflows (see World Bank 1998).

Table 6: Current account deficits (% of GDP)

	1994	1995	1996
Korea	-0.96	-1.74	-4.42
Thailand	-5.59	-8.05	-8.05
Malaysia	-6.07	-9.73	-4.42
Indonesia	-1.58	-3.18	-3.37
Philippines	-4.60	-2.67	-4.77

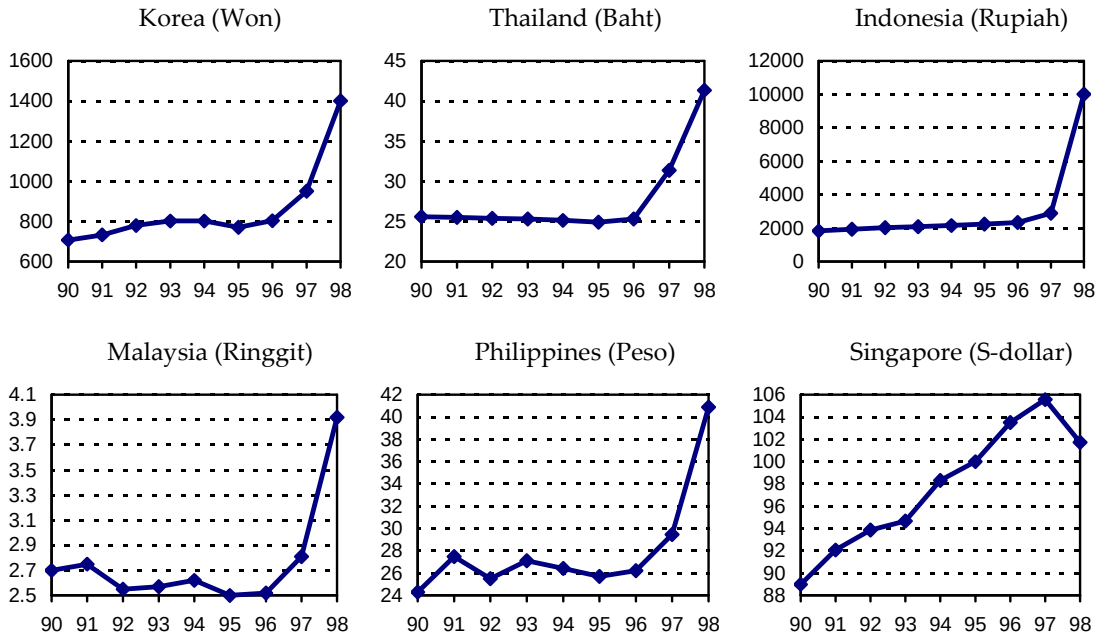
Source: World Bank, "*World Development Indicators 2002*".

5. Twin Crisis

The first signs of a crisis appeared in Thailand, where the macroeconomic fundamentals deteriorated markedly. The plunge in the real estate and securities markets caused investors to become concerned over the sustainability of the Thai financial system. A high current account deficit led to expectations of a baht devaluation. From the middle of 1996, the baht was massively sold. The borrowers in foreign currency who had previously believed in the fixed exchange rate were nervous and bought dollars to ensure their due debt payments. The Thai government initially ran down its foreign reserves to

protect the exchange rate, but this could not be kept up for long. The baht was floated at the beginning of July 1997, depreciated immediately by 10%, and then its value decreased continuously.

Figure 6: The official nominal exchange rate (domestic currency/USD)



Source: World Bank, "*World Development Indicators*", 2002.

A banking crisis accompanied the currency crisis. High interest rates during the fixed exchange rate period put both financial institutions and borrowers in difficulty. A series of Thai finance companies had gone into bankruptcy even before the baht was devalued. And when the baht was devalued, the external debts converted into baht soared, with the bankrupcies of many firms and financial institutions following.

Table 7: Annual real GDP growth rate (%)

	1995	1996	1997	1998	1999	2000
Korea	8.92	6.75	5.01	-6.69	10.89	8.81
Thailand	9.31	5.88	-1.45	-10.77	4.22	4.31
Malaysia	9.83	10.00	7.32	-7.36	6.08	8.30
Indonesia	8.40	7.64	4.70	-13.13	0.85	4.77
Philippines	4.68	5.85	5.19	-0.58	3.40	4.01
China	10.53	9.58	8.84	7.80	7.05	7.94
Vietnam	9.54	9.34	8.15	5.80	4.80	5.50

Source: World Bank, "*World Development Indicators*", 2002.

The crisis quickly spread to Korea, Malaysia, and Indonesia. The ringgit and rupiah came under pressure and were finally devalued. The won, thanks to the flexible exchange rate regime, had been depreciating since 1996. The short-term capital flows, which used to come in, then went out rapidly.

A series of *chaebols* went bankrupt. The real estate and securities markets collapsed in Malaysia, as they had done in Thailand. The bad debt ratio increased in the banking system, partly due to non-performing loans extended to domestic firms, and partly due to loans offered to individuals who invested in securities and could not repay as the securities prices fell. However, the Malaysian situation was less serious because there was not a large amount of short-term external debt. Indonesia was most influenced. A series of financial institutions collapsed as their loans based on personal relationships and under the government's direction became bad loans. The rupiah fell sharply. The financial crisis developed into an acute political crisis.

II. The second explanation – Bank runs and coordination failures

Radelet and Sachs (1998) suggested that the problems in East Asia stemmed from a loss of investor confidence, and the crisis was one of *illiquidity*. "Coordination failure" causes bank runs. Even a good bank will be in difficulty if depositors make a run on the bank. Even if the asset value is higher than the liability value (i.e., the bank is viable in terms of financial criteria), at the time of the bank run, it will not be able to pay for all people who want to withdraw money. Hence, the bank defaults.

In East Asia, investors did not believe that foreign reserves were sufficient to repay short-term debts. Both domestic and foreign investors wanted to withdraw their capital. The banks claimed back their loans, turned down applications to extend old debts and stopped lending while investors sold out their securities, converted into foreign currencies; and capital took flight. In 1997 alone, more than USD20 billion flowed out from the five East Asian crisis-hit countries, where the inflows had been around USD66 billion in 1996 (Table 8).

Table 8: Private external capital in five East Asian countries (Korea, Thailand, Malaysia, Indonesia, and Philippines), 1991-96 – USD billion

	1996	1997	1998	1999
Net private flows	65.8	-20.4	-25.6	-24.6
Net foreign direct investment	8.4	10.3	8.6	10.2
Net portfolio investment	20.3	12.9	-6.0	6.3
Commercial and other loans	37.1	-43.6	-28.2	-41.1
Net official flows	-0.4	17.9	19.7	-4.7

Source: World Bank, "*World Economic Outlook*", 3/2000.

According to Radelet and Sachs, the absence of a mechanism to settle an enterprise's debts and bank loans in an orderly manner pushed both good and bad firms into difficulty, and exacerbated the financial crisis.

The Radelet and Sachs' explanation can be demonstrated using a game theory example as follows.[4] A group of financial institutions lends money to East Asian countries. A conflict between lenders always exists. When the borrowing country is in difficulty, those lenders who claim early will get back all their loans, and those who claim late will lose all. This would encourage a run even if the economy were merely in temporary difficulty, and still healthy in the long term.

For example, a local firm has borrowed money from two foreign banks, A and B. The loans are due and the firm has to pay each bank $10 million. However, liquid assets available for paying debts are

[4] See the lecture on game theory in the Microeconomics course.

less than $20 million, due to a temporary shortage (The value of the firm's assets is $20 million, but liquid assets are only worth $10 million).

The two banks can choose between claiming the debts right now and delaying them for one year. If both banks claim the debts, the firm will have to liquidate its assets. Assume that the firm only has liabilities to the two banks, and the asset salvage value is $16 million (i.e. liquidation costs are $4 million). Each bank will receive $8 million. If both banks delay the debts, the firm will probably recover, and each bank will receive $9 million (in terms of the present value). Each bank will lose $1 million if it delays the debt. If A claims the debt and B delays the debt, then A will receive $10 million, and B will receive nothing, or vice versa if B claims and A delays the debt. The outcomes are summarized in Table 9.

Table 9

		Bank B	
		Delay	Claim
Bank A	Delay	9:9	0:10
	Claim	10:0	8:8

If B delays the debt, A should claim the debt (since it will receive $10 million instead of the $9 million it would receive if it delayed the debt). If B claims the debt, A should claim the debt as well (because it will receive $8 million instead of nothing if it delays the debt). Hence, A always claims the debt. Similarly, B always claims the debt as well. Thus the equilibrium (also known as the Nash equilibrium) is such that both A and B will claim their debts and each one will receive $8 million. The firm will have to liquidate its assets. Clearly, this equilibrium is not socially efficient. If A and B delay the debts, each will receive $9 million, higher than the Nash equilibrium. However, A and B always claim their debts due to a coordination failure.

III. The third explanation – speculators' attacks

Large scale withdrawals of capital can have a significant impact on an economy. Investors can speculate and bet on the financial conditions of an economy. According to the Malaysian Prime Minister, Dr. Mahathir Mohamad, the 1997-98 crisis occurred as a result of the behavior of the securities arbitrage funds and the big investors (most notably George Soros). Experiences of many previous currency crises suggest that when the forward rate is determined based on the fixed exchange rate, speculators can benefit from short selling the domestic currency (or buying the forward/futures foreign currency) and rush into the foreign currency as the domestic currency depreciates.

However, there is no clear evidence of large speculative activities in East Asia. A few securities arbitrage funds did actually short sell the baht, but many domestic investors did so in mid 1997. It seems that the speculators were following the domestic investors, not the reverse. Only in Hong Kong did the speculators launch a fierce attack on the Hong Kong dollar.

Attacks on the Hong Kong dollar

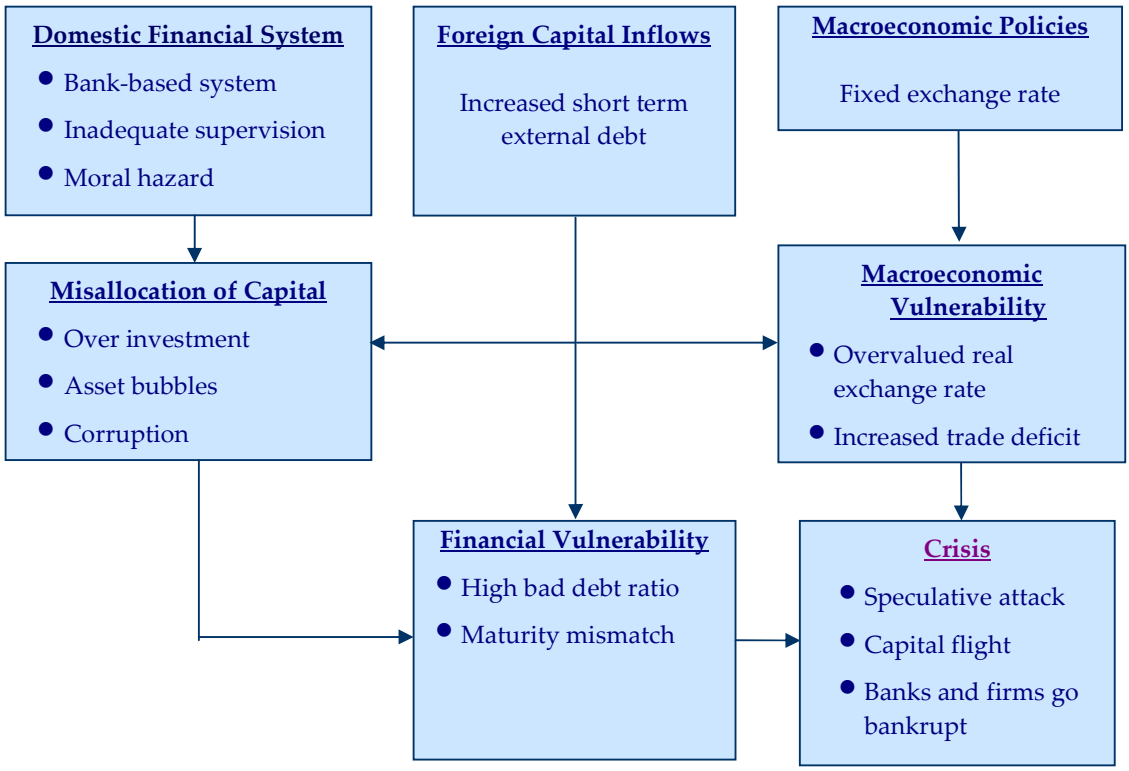
The domestic currency is managed by a Currency Board in Hong Kong. Since 1983, the exchange rate of the Hong Kong dollar (HKD) against the US dollar (USD) has been fixed at 7.8 HKD/USD. Under the Currency Board, the quantity of domestic currency circulated equals the US dollar foreign reserves multiplied by the exchange rate. Hence, the domestic money supply is determined by the foreign exchange reserves on an automatic adjustment basis. If the foreign reserves decline, the

supply of domestic currency will reduce as well. If the foreign reserves rise, the supply of the Hong Kong dollar will also increase. Thus, if the demand for the US dollar increases excessively (due to over imports or a rush into the US dollar), the supply of domestic currency will decline. This leads to a decrease in prices and imports. Under this mechanism, the exchange rate can be stabilized and protected.

During the Mexican crisis in 1994, speculators had attacked the Hong Kong dollar to force the government to devalue the domestic currency, in order to benefit from the devaluation. Most of them were from abroad, where they did not have the HKD on hand. Their strategy was to borrow in HKD, and then to sell them for US dollars at the fixed rate of 7.8 HKD/USD. They hoped that when the HKD was massively sold, the demand for USD would rise in Hong Kong. The government would use foreign reserves to protect the exchange rate. As it would not be possible to maintain the exchange rate, the HKD would have to be devalued, and speculators would benefit from selling the USD at a rate higher than the initial rate of 7.8 HKD/USD. This benefit, however, would have to be higher than the interest payment for the borrowed HKD. In order to defend against the attack, the government immediately increased the HKD interest rates. At the same time, the exchange rate was sustained with the abundant foreign reserves under the Currency Board. The speculators did not benefit from foreign exchange transactions, and even lost heavily on high interest payments.

In the 1997-98 East Asian crisis, speculators attacked the Hong Kong dollar again in August 1998. Anticipating an increase in interest rates by the government, speculators implemented a two-pronged attack strategy. While undertaking the same transactions as those in 1994, they short sold stocks in the Hong Kong securities market. If interest rates were increased to protect the exchange rate, the stock price would decline. Hence, although speculators would not benefit from the currency attack, they could earn from short selling stocks. Unfortunately, what they did not foresee was that the government, in an effort to prevent depreciation, bought stocks with its reserves. As a result, the stock price did not fall. Speculators had failed in both their speculative attack and short sale of stocks.

The East Asian crisis can be summarized in the following diagram:



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