The East Asian currency crisis: Causes and lessons
Kawai, Masahiro
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THE EAST ASIAN CURRENCY CRISIS: CAUSES AND LESSONS

MASAHIRO KAWAI*

Financial deregulation and capital-account liberalization preceded speculative currency attacks in Thailand. A combination of de facto *fixed exchange rates and high rates of interest generated excessive capital inflows, which led to too much liquidity chasing bad investments. The under-supervised and over-guaranteed financial sector extended loans excessively, particularly for non-productive, speculative purposes. Non-transparent practices, in the form of weak disclosure of institutions' true balance sheets and insider relations, masked these poor investments. The buildup of short-term, unhedged debt left East Asian economies vulnerable to a sudden collapse of confidence. Currency attacks ran down official foreign exchange reserves. Rapid capital outflows and the consequent depreciation of currencies exacerbated the strains on private sector balance sheets. The policy lessons are to (i) use macroeconomic policy to avoid excessive capital inflows and currency overvaluation, (ii) strengthen the financial system, with proper disclosure and accounting requirements, stringent loan classification and provisioning rules, and capital adequacy requirements, prior to capital-account liberalization, (iii) stabilize exchange rates based on currency baskets that reflect trade and investment linkages, and (iv) develop regional financial cooperation with regional surveillance and peer pressure to maintain policy discipline.* (*JEL* F31, F32, F33, F24, G15, G28)

I. CURRENCY ATTACKS IN EAST ASIA: COLLAPSE OF THE MIRACLE?

Almost all currencies in East Asia were severely affected by speculative attacks in the foreign exchange markets. Following the *de facto* devaluation of the Thai baht on July 2, 1997, other ASEAN countries underwent a series of speculative attacks. In response to the attacks, the Philippines, Indonesia and Malaysia allowed currency depreciation in mid-July either by widening their exchange rate bands or by not intervening heavily in the currency market. In mid-August, Indonesia decided to abolish exchange rate bands and moved to independent floating to allow further depreciation of the rupiah. There was a delayed speculative attack on the Korean won in late October, which began to depreciate drastically over the next two months. Korea also moved to independent floating in mid-December after widening exchange rate bands a month earlier.

Thailand, Indonesia and Korea requested IMF assistance and, in exchange, accepted conditions of tight macroeconomic policy, financial system restructuring, and real-sector structural reforms. Despite IMF assistance and policy shifts, these countries continued to face simultaneous downward spirals of exchange rates and stock prices (Figure 1 and Figure 2). These and many other East Asian economies also experienced severe credit crunch and economic contraction because domestic financial institutions were cautious in extending loans under the pressure of financial sector restructuring and the substantially curtailed access to foreign credit.

ABBREVIATIONS

ADB: Asian Development Bank
AFTA: ASEAN Free Trade Agreement
AMC: Thailand's Asset Management Corporation
ASEAN: Association of South-East Asian Nations
BIBF: Bangkok International Banking Facility
FDI: Foreign Direct Investment
FRA: Thailand's Financial Restructuring Agency
GDP: Gross Domestic Product
IMF: International Monetary Fund
NBFIs: Non-Bank Financial Intermediaries

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Kawai: Professor, Institute of Social Science, University of Tokyo, Phone 81-3-3812-2111 x4905
Fax 81-3-3816-6864, E-mail kawai@iss.u-tokyo.ac.jp

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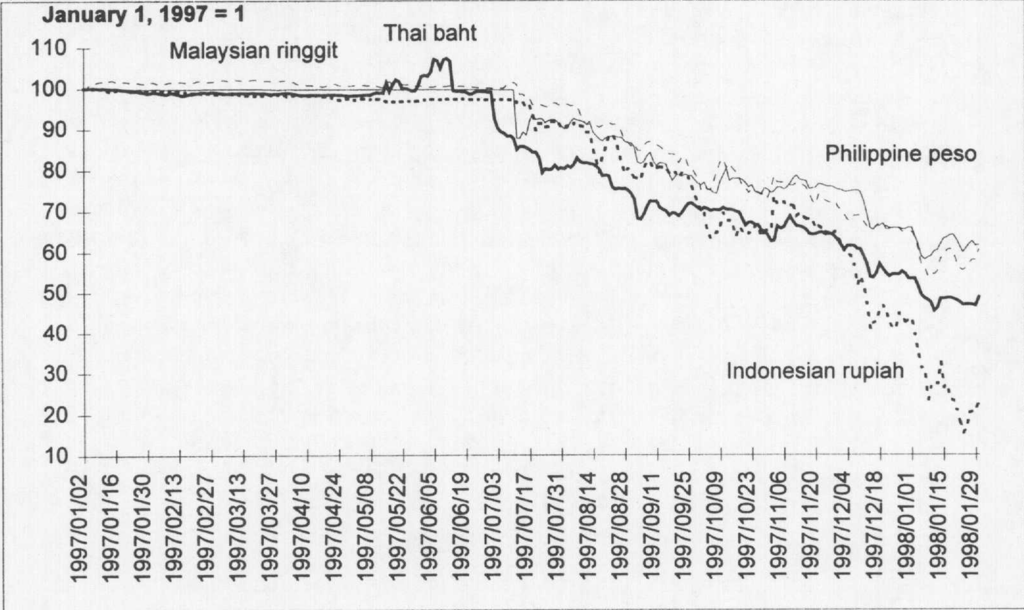
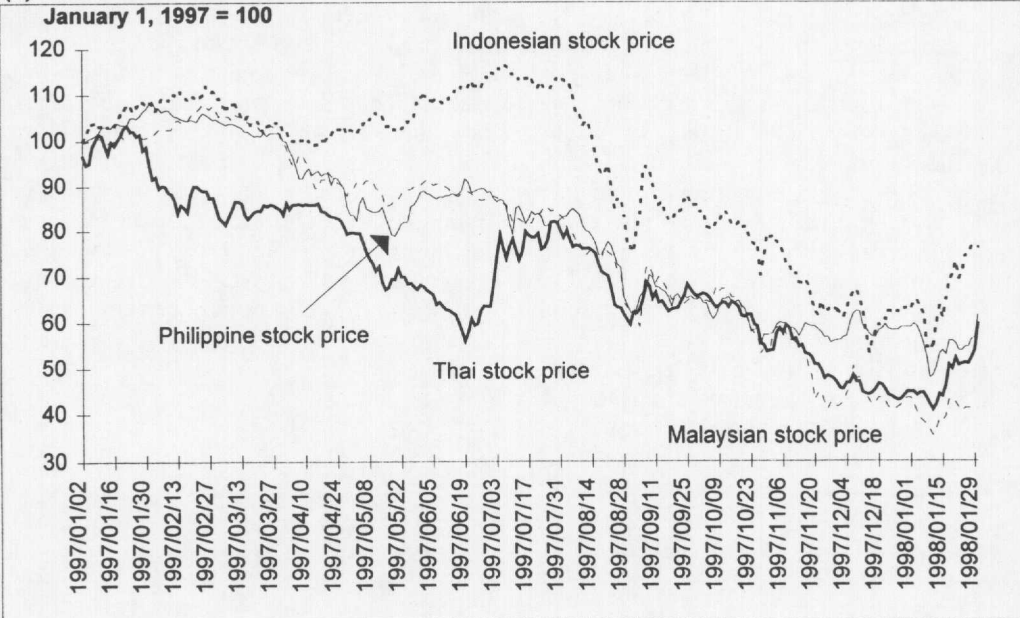
FIGURE 1
The ASEAN Countries' Exchange Rates and Stock Prices





Source: Data Stream.

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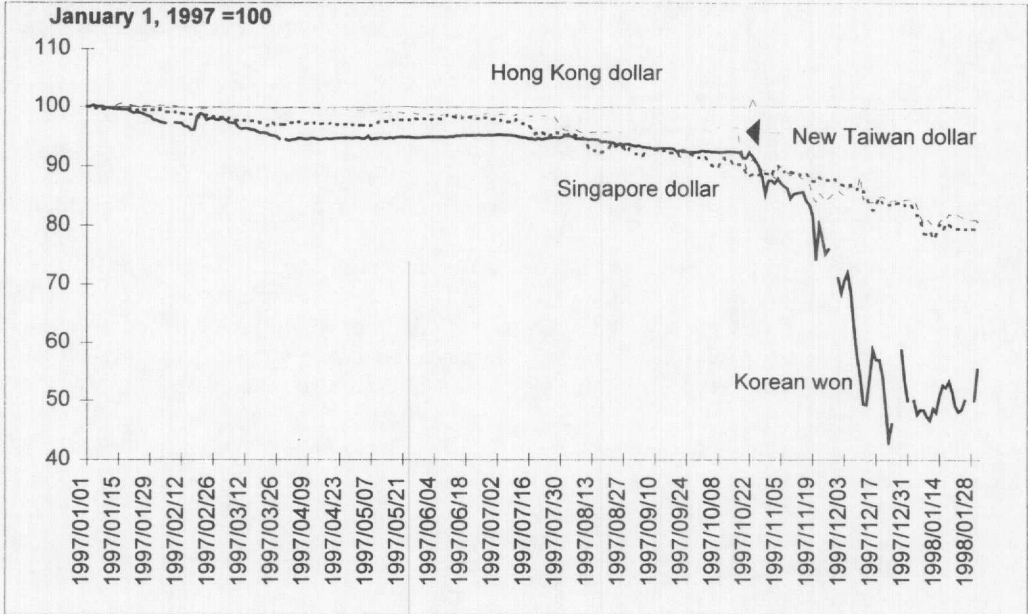
FIGURE 2
The Asian NIEs' Exchange Rates and Stock Prices



Source: Data Stream for Singapore, Hong Kong, and Taiwan; Nomura Research Institute for Korea.

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Until the currency crisis broke out, East Asia was the most dynamically growing part of the world and often was called the "growth center" in the world economy (Table 1). Its economic miracle was made possible by rapid capital accumulation, increased supply of labor, and productivity growth. This remarkable economic development in the last 20 years was aided by stable macroeconomic environments and outward-oriented policy regimes. Since the mid-1980s, outward orientation had been accompanied by the introduction of export-oriented foreign direct investment (FDI). We observed virtuous circles of the expansion in FDI inflows and exports and imports, which stimulated economic growth, in turn attracting FDI inflows and stimulating trade.

When there was a currency crisis in Mexico in late 1994, economists and policymakers in East Asia said the region would not face a similar crisis because its economic fundamentals were substantially better. It enjoyed high savings rates, relatively low inflation, and sound fiscal positions. Even when current account deficits persisted, the deficits were financed by long-term capital inflows, such as FDI inflows and short-term banking inflows with long-term roll-over commitments. They believed that a severe currency crisis was a remote possibility in East Asia.

Now, to our surprise, most of the East Asian economies are under currency attacks and are undergoing severe financial crises. The experiences since July 1997 have revealed the fact that no economy, even the supposedly most dynamic East Asian economy, is immune to massive currency attacks once things go wrong.

II. PROCESSES OF CURRENCY CRISES

Let us first examine how the speculative attack developed in Thailand, the source country of currency crises in East Asia. For this purpose, we must discuss the weaknesses of the Thai financial system just before the attack on the baht.

A. *Fragility of The Thai Financial System*

Thailand started to deregulate the financial market in the 1990s by drafting two three-year financial development plans and the most recent master plan. Based on these plans, Thailand liberalized interest rates and the scope of financial institutions' businesses, introduced new financial instruments and services, adopted the BIS capital adequacy ratio, and attempted to transform Bangkok into a financial center.

In addition to domestic financial market deregulation, Thailand also began to liberalize financial capital flows and foreign exchange transactions in the 1990s, following the successful liberalization of FDI and foreigners' investment in the stock market in the 1980s. After accepting Article 8 of the IMF in 1990, the country began relaxing foreign exchange restrictions on capital-account related transactions. One important strategy for capital account liberalization included the establishment of the Bangkok International Banking Facility (BIBF), an offshore banking center, in 1993.[1] In addition to the high domestic interest rates relative to those abroad, the establishment of the BIBF was an important factor that helped expand the volume of foreign bank loans into Thailand.[2]

Domestic commercial banks and BIBF-based banks borrowed large amounts of for-

1. The BIBF was established for several purposes: to encourage foreign-currency denominated bank loans into Thailand (out-in loans) to meet funding needs of Thai firms and to finance domestic infrastructure development; to attract foreign banks with international reputation, technology and know-how to Bangkok so as to introduce more competition into the banking system and to improve efficiency of Thai commercial banks; to encourage foreign banks to extend loans, via Bangkok, to the greater Indochina area (out-out loans). The Thai authorities attempted to use the BIBF as a carrot to induce "good" behavior from foreign banks by giving them opportunities to be upgraded to full-branch banks. That is, it was generally understood that the authorities would evaluate the performance of each BIBF-based foreign bank in terms of its contribution to the Thai economy and judge whether the bank merited granting of full-branch bank license. Full-branch banking was considered more lucrative because it involved taking deposits and extending loans in baht where the spread was large. In fact, in their bids for full-branch bank status, BIBF-based foreign banks, particularly Japanese banks, poured in large amounts of foreign-currency denominated bank loans. They did so in order to impress the Thai authorities and eventually to obtain full-branch bank licenses.

2. In November 1996, full-branch bank licenses were granted to seven BIBF-based foreign banks, of which three were Japanese. The BIS statistics reveal that BIS-reporting banks had outstanding bank loans of US$ 70 billion in Thailand at the end of 1996, US$ 37 billion of which were held by Japanese banks (see also Table 2 for figures at the end of June 1997). This suggests that Japanese banks competed aggressively to expand their loans to Thailand; it is no wonder, three of the five Japanese banks that filed for full-branch banking obtained licenses.

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TABLE 1

Economic Size of East Asia in Comparison to the United States, the European Union, and Japan

Countries and Regions	GDP (1996) US$ Million	Population (Mid-1996) Million	GDP/POP (1996) US Dollar	International Trade: Exports (1996) US$ Million	International Trade: Imports (1996) US$ Million	Foreign Exchange Reserves (End 1996) US$ Million	Stock Market Capitalizations (End 1996) US$ Million
United States	7,253,800	266.6	27,213	624,528	817,795	64,040	8,484,433
European Union	9,231,555	387.4	23,827	2,078,918	1,962,317	402,128	4,511,206
Japan	4,599,706	125.8	36,575	410,901	349,152	216,648	3,088,850
East Asia	1,598,067	427.7	3,736	902,990	945,234	463,254	1,704,448
Asian NIEs	1,006,459	76.3	13,194	551,066	578,004	262,755	1,012,021
Singapore	94,063	3.0	30,942	125,024	131,338	76,847	150,215
Hong Kong	154,547	6.3	24,492	180,745	198,560	63,833	449,381
Taiwan	273,071	21.4	12,766	115,462	97,894	88,038	273,608
Korea	484,778	45.5	10,645	129,835	150,212	34,037	138,817
ASEAN-Four	591,608	351.4	1,683	200,727	228,286	93,021	578,672
Malaysia	98,106	21.2	4,628	74,037	77,751	27,009	307,179
Thailand	184,112	60.0	3,069	56,459	73,484	37,731	99,828
Philippines	83,533	71.9	1,162	20,417	34,122	10,030	80,649
Indonesia	225,857	198.3	1,139	49,814	42,929	18,251	91,016
China	815,432	1,217.6	670	151,197	138,944	107,478	113,755

Source: International Monetary Fund, International Financial Statistics, August 1997.
Asian Development Bank, Key Economic Indicators of Developing Asian and Pacific Countries 1997.
International Finance Corporation, Emerging Stock Markets Factbook 1997.

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eign currency and used them to extend loans to finance companies, manufacturing firms, and various other business firms. Not a small proportion of loans was extended to productive investment projects, but an increasingly large proportion was directed to non-productive investments such as real estate, construction, stock purchases, and consumer loans. As long as the economy grew at a rapid rate, there was little problem in recovering such loans. Even firms with unsound projects could continue to borrow to pay interest and keep loans current. In 1996, economic growth started to slow down, the stock market started to collapse, and the land boom by many accounts already had been over for one or even two years. Because of the asset market collapse, several commercial banks and a large number of finance companies found themselves in difficulties. Many financial institutions began to see their outstanding loans turn into bad loans. Foreign banks stopped lending and even started to withdraw their loans, which aggravated the financial positions of many financial institutions and threatened financial market stability. To keep the financial system from collapsing, the Thai authorities extended liquidity to these ailing financial institutions.[3]

Bangkok Bank of Commerce was the first major commercial bank to experience management difficulties and was placed under the full control of the Bank of Thailand in May 1996. In February 1997, one of the largest finance companies, Finance One, was suddenly found in management difficulties. The Bank of Thailand made public the names of nine finance companies and one credit finance company that were in management difficulties. In June, the Bank of Thailand ordered 16 finance companies, including these nine, to suspend business and to make efforts to restructure management. This aggravated financial system instability and undermined confidence in the baht.

To summarize, when financial deregulation and cross border capital flow liberalization were pursued, the Thai financial system was not sufficiently resilient to adverse macroeconomic fluctuations and asset price gyrations. Commercial banks and finance companies lacked capabilities to efficiently manage their portfolio risks, and the authorities did not have an adequate framework of supervision. An implicit commitment by the authorities to rescue financial institutions in distress clearly created moral-hazard problems on the part of financial institutions.

B. *The Thai Baht Crisis*

The Thai baht had been under a few speculative attacks since the aftermath of the Mexican peso crisis. In February 1997 a large-scale attack on the baht took place. The Bank of Thailand defended the baht by raising the interest rate and by intervening heavily in the currency market. When another massive attack occurred in May, the Thai authorities introduced capital control prohibiting commercial bank lending of bahts to non-residents and segmented the onshore and offshore foreign exchange markets. Although not widely known until August, the Bank of Thailand engaged heavily in swap interventions (contracts to purchase U.S. dollars spot and to deliver U.S. dollars at future dates) on a number of different occasions, expending US$ 29.4 billion by the end of June. This meant that the amount of foreign exchange reserves effectively held by the Thai authorities at the end of June was a meager US$ 2 billion.[4] In the face of sustained downward pressure on the baht and the rapidly depleting foreign exchange reserves, the Thai authorities found it difficult to continue to defend the value of the baht. On July 2, the authorities finally decided not to support the baht rate any longer and to move from a basket peg system to a managed float system. This change allowed *de facto* devaluation of the baht. Over the course of the following six months, the baht depreciated by almost 100% against the U.S. dollar.

Under market pressure, the Thai government requested IMF assistance in late July and made public its adjustment policy package. At the August meeting in Tokyo, a financing package of at least US$ 16 billion was pledged

3. The Financial Institutions Development Fund (FIDF) played an instrumental role in this rescue. In existence within the Bank of Thailand since 1985, the FIDF was a vehicle for providing liquidity to commercial banks and to finance companies in severe management difficulties. However, the FIDF was too soft in providing liquidity without carefully examining the financial positions of financial institutions in distress. The FIDF eventually lost its entire fund.

4. This is the most conservative estimate and represents the difference between the reported amount of foreign exchange reserves (US$ 31.4) and swap obligations (US$ 29.4).

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by the IMF, the World Bank, the ADB, Japan, Australia, and other East Asian economies. This was later joined by China and Brunei, totaling US$ 17.2 billion.

In mid-August, the Thai authorities and the IMF announced mutually agreed upon economic adjustment programs, which included tight monetary and fiscal policies and financial sector restructuring (i.e., suspension of an additional 42 finance companies, totaling 58). On October 14, as part of IMF conditions, the Thai authorities announced plans to rehabilitate the Thai financial system and established the Financial Restructuring Agency (FRA) and the Asset Management Corporation (AMC). The major task of the FRA was to decide which of the 58 suspended finance companies should be reopened or closed. In December, the FRA announced that 56 out of the 58 suspended finance companies would be permanently closed and that it would dispose of assets of liquidated finance companies. The AMC would dispose of non-performing assets. To rehabilitate the financial sector, the authorities emphasized protecting the remainder of the financial institutions (15 commercial banks and 35 finance companies) and decided to require strong recapitalization from the reopened finance companies and tighter loan classification and provisioning rules. These measures, though necessary for financial sector rehabilitation, have caused severe credit crunch by making financial institutions cautious in extending loans. In addition, difficulties of rolling-over of international bank loans have made domestic activity of Thai commercial banks even more timid. Though confidence in the baht was somewhat restored in the beginning of 1998, the domestic economy continued to contract.

C. *Contagion Syndromes*

The *de facto* devaluation of the Thai baht in July 1997 was soon followed by a series of speculative attacks on other ASEAN currencies. In response to the attacks, the Philippines and Indonesia widened their exchange rate bands in mid-July to allow currency depreciation. The Philippines immediately requested IMF assistance, which was quickly approved because the country already had been under the IMF program. Indonesia switched to an independent float system to allow further depreciation of the rupiah and to prevent a continued run on the rupiah in mid-August without success. In October, the country was forced to request IMF assistance to strengthen its foreign exchange reserve positions with the conditions of tight macroeconomic policy, financial sector restructuring (closure of 16 commercial banks), and domestic economic reforms. Malaysia also saw its currency come under speculative attack and allowed the ringgit to depreciate.

Although there was no immediate contagion effect for other East Asian currencies, the Hong Kong dollar was the major target of attack in late October. As the Hong Kong Monetary Authority was determined to defend its currency value and consequently let the interest rate rise and the Hang Seng index decline, the speculative contagion spread quickly to Korea. The Korean won began to depreciate drastically in November and December because of perceived difficulties of roll-over of foreign currency loans extended to Korean commercial banks. Korea then rushed to the IMF for its assistance in late December and accepted the conditions of tight macroeconomic policy, financial sector restructuring, further capital-account liberalization, and domestic economic reforms involving conglomerates (*chaebols*).

Despite commitments of massive financial assistance from the IMF, the World Bank and other countries, and accompanied policy reforms, the values of the Korean won and the Indonesian rupiah continued to plunge at the turn of the year because of the loss of confidence in these currencies. International bank lenders started to pull out of Korea and Indonesia for fear of possible defaults of borrowers (commercial banks in Korea and business firms in Indonesia) whose external debts were inflated by steep currency depreciation. At the same time, domestic investors in these countries sold their currencies to avoid further exchange losses. All these exerted significant downward pressure on the exchange rates. Not only Thailand but also Indonesia, Korea, and many other East Asian economies experienced severe credit crunch and economic contraction because domestic commercial banks and nonbank financial intermediaries (NBFIs) have been cautious in extending loans under the pressure of financial sector restructuring and have substantially reduced access to foreign credit.

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Indonesia and Korea had much better fundamentals than did Thailand, but both countries came under massive currency attacks and are now under IMF supervision. The financial positions of these two countries were severely affected by steep depreciation of the currencies, which in turn led to further currency depreciation. There is no question that we can find some important domestic factors that led to currency crises in Indonesia and Korea, but it seems safe to say that speculative contagions played much more significant roles.

III. CAUSES OF CURRENCY CRISES

There are essentially five causes for the East Asian currency crisis: unfavorable macroeconomic conditions, excessive inflows and rapid outflows of short-term capital, inappropriate exchange rate arrangements, financial system fragility, and regional contagions.

A. *Worsening of Macroeconomic Conditions*

The worsening of macroeconomic performance was the immediate cause of crisis in Thailand, although macroeconomic conditions in other ASEAN countries and Korea were not as bad. In Thailand, because of the high interest rate policy to contain overheating of the economy and inflation, along with the collapse of land and stock prices, the rate of economic growth slowed down in 1996 from close to 9% in the previous two years to about 6%. In addition, after strong performance averaging about 20% growth in exports during 1991–1995, exports stagnated substantially in 1996 due to weak demand abroad, the real effective appreciation of the baht, and increased competition from China and Vietnam. The real effective exchange rates appreciated in not only Thailand but also other ASEAN countries and Korea because of sustained high domestic inflation, the devaluation of China's renminbi in 1994, and yen depreciation since mid-1995. The current account deficit in Thailand reached 8% of GDP for two consecutive years, a level comparable to that of Mexico at the time of the peso crisis in late 1994. The deficits in other countries also persisted, though their sizes were not as large as in Thailand, and their external debt reached high levels relative to GDP. Current account deficits were the results of high domestic investment, much of which was excessive and inefficient.

B. *Excessive Inflows and Rapid Outflows of Short-term Capital*

All countries suffering currency attacks had not only sizable current account deficits but also large capital inflows, often exceeding the size of current account deficits (Figure 3). Excessive capital inflows were the result of high domestic interest rates and expectations of continued stable exchange rates. The problem was that capital inflows to East Asia increasingly took the form of short-term capital inflows; these inflows were mainly through commercial banks and NBFIs in Thailand and Korea, while in Indonesia they were mainly through domestic corporate firms (Table 2). This made current account financing vulnerable to sudden shifts in market sentiments because short-term capital flows could easily be reversed once confidence in the currency was lost. In fact, when confidence in the value of the currency came into doubt, capital inflows began to decline and even net outflows of capital began to be observed. In addition borrowers started to unwind their unhedged foreign-currency positions by selling short the domestic currency through forward and swap transactions. All of these put large downward pressure on the currency.

C. *Inappropriate Exchange Rate Regimes*

Many East Asian economies adopted exchange rate regimes that did not reflect fundamental patterns of their international transactions by tying their exchange rates to the U.S. dollar. Thailand had been on a basket peg system since 1984, which required the Bank of Thailand to stabilize the baht with respect to a basket of foreign currencies where the weight of the U.S. dollar was believed to be large. Other East Asian economies, including the other ASEAN countries and Korea, also adopted either a U.S. dollar-peg system or a currency basket system with a large weight on the U.S. dollar. Although the weights of the U.S. dollar and other major currencies in the currency basket system were never disclosed, regression results summarized in Table 3 suggest that in the 1990s, the East Asian central banks assigned a dominant weight of 80%–90% to the U.S. dollar and only small weights to the Japanese yen and European currencies.

However, with high domestic inflation and the U.S. dollar's appreciation since mid-1995

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TABLE 2

Outstanding Loans from BIS-Reporting Banks, End-June 1997

	Distribution by Maturity		Distribution by Sector				Distribution by Country						
									Western Europe				
	Up to and including one year	Over one year	Banks	Foreign banks	Non-bank private sector	Public sector	Japan	United States	France	Germany	United Kingdom	Total (Incl Others)	Grand Total
Million U.S. Dollars													
Singapore	196,600	11,537	174,874	115,529	35,085	1,031	65,035	5,215	15,339	38,351	25,245	113,307	211,192
Hong Kong	183,115	29,391	143,974	101,854	75,291	1,215	87,354	8,847	12,777	32,204	30,063	99,454	222,289
Taiwan	21,966	2,834	15,497	2,610	9,251	398	3,008	2,507	5,150	3,001	3,161	14,439	25,163
Korea	70,182	20,505	67,290	4,756	31,680	4,390	23,732	9,964	10,070	10,794	6,064	36,324	103,432
Malaysia	16,268	8,863	10,486	2,694	16,460	1,851	10,489	2,400	2,934	5,716	2,011	12,672	28,820
Thailand	45,567	21,083	26,069	12,246	41,262	1,968	37,749	4,008	5,089	7,557	2,818	19,804	69,382
Philippines	8,293	4,327	5,485	1,027	6,772	1,855	2,109	2,816	1,678	1,991	1,076	6,795	14,115
Indonesia	34,661	20,549	12,393	1,373	39,742	6,506	23,153	4,591	4,787	5,610	4,332	22,481	58,726
China	30,137	23,174	24,700	2,775	25,562	7,656	18,731	2,932	7,299	7,278	6,906	28,066	57,922
Vietnam	855	571	579	65	756	112	241	101	373	316	130	980	1,456
East Asia Total	607,644	142,834	481,347	244,929	281,861	26,982	271,601	43,381	65,496	112,818	81,806	354,322	792,497
Asia Total (Incl. Others)	849,917	258,978	652,643	274,320	470,697	55,963	395,428	75,672	105,882	159,999	111,491	513,005	1,181,938
Percentage of the Grand Total													
Singapore	93.1	5.5	82.8	54.7	16.6	0.5	30.8	2.5	7.3	18.2	12.0	53.7	100.0
Hong Kong	82.4	13.2	64.8	45.8	33.9	0.5	39.3	4.0	5.7	14.5	13.5	44.7	100.0
Taiwan	87.3	11.3	61.6	10.4	36.8	1.6	12.0	10.0	20.5	11.9	12.6	57.4	100.0
Korea	67.9	19.8	65.1	4.6	30.6	4.2	22.9	9.6	9.7	10.4	5.9	35.1	100.0
Malaysia	56.4	30.8	36.4	9.3	57.1	6.4	36.4	8.3	10.2	19.8	7.0	44.0	100.0
Thailand	65.7	30.4	37.6	17.7	59.5	2.8	54.4	5.8	7.3	10.9	4.1	28.5	100.0
Philippines	58.8	30.7	38.9	7.3	48.0	13.1	14.9	20.0	11.9	14.1	7.6	48.1	100.0
Indonesia	59.0	35.0	21.1	2.3	67.7	11.1	39.4	7.8	8.2	9.6	7.4	38.3	100.0
China	52.0	40.0	42.6	4.8	44.1	13.2	32.3	5.1	12.6	12.6	11.9	48.5	100.0
Vietnam	58.7	39.2	39.8	4.5	51.9	7.7	16.6	6.9	25.6	21.7	8.9	67.3	100.0
East Asia Total	76.7	18.0	60.7	30.9	35.6	3.4	34.3	5.5	8.3	14.2	10.3	44.7	100.0
Asia Total (Incl. Others)	71.9	21.9	55.2	23.2	39.8	4.7	33.5	6.4	9.0	13.5	9.4	43.8	100.0

Source: Bank for International Settlements, The Maturity, Sectoral and Nationality Distribution of International Lending, First half 1997 (Basle, January 1998).

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FIGURE 3a

Current Account Deficits, Financial Accounts, and Major Components of Net Capital Inflows (Relative to GDP)
The ASEAN Countries

Sources: International Monetary Fund, International Financial Statistics, CD-ROM. Asian Development Bank, Key Indicators of Developing Asia and Pacific Countries, 1997.

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FIGURE 3b

Current Account Deficits, Financial Accounts, and Major Components of Net Capital Inflows (Relative to GDP)
The Asian NIEs

Sources: International Monetary Fund, International Financial Statistics, CD-ROM. Asian Development Bank, Key Indicators of Developing Asia and Pacific Countries, 1997.

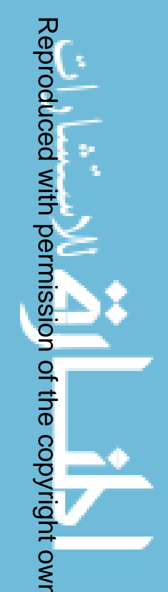

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TABLE 3

Summary of Regression Results for Asian Currencies (January 1990 – December 1996)
Estimated Implicit Weights Assigned to Foreign Currencies in Exchange Rate Policies

	Constant	USA Dollar	Japanese Yen	German Mark	French Franc	UK Pound Sterling	SDR	Singapore Dollar	Australian Dollar	New Zealand Dollar	R-Square Adjusted	Std Error Residuals	DW Statistics	Number Obs.
Singapore	–0.003**	0.420**	0.021	0.036			0.600**				0.959	0.005039	1.937	84/0
Hong Kong	0.000	1.003*	–0.002	–0.003	0.006	–0.006					0.999	0.001159	1.967	84/0
Taiwan	0.001	0.797**	0.106**	0.068	0.174	0.002					0.909	0.008802	1.334	84/0
Korea	0.003**	0.941**	0.088**	0.069	–0.063	–0.067#					0.958	0.006118	1.364	84/0
Malaysia	0.001	0.589**	0.044	0.018	0.200	–0.006		0.340			0.876	0.010692	1.327	84/0
Thailand	0.000	0.789**	0.104**	0.028	0.017	0.017**		0.040*			0.999	0.000897	1.430	84/0
Philippines	0.002	1.087**	–0.094	–0.106	0.337	–0.022					0.798	0.016862	1.236	84/0
Indonesia	0.003**	0.966**	0.014	–0.038	0.058	0.013					0.992	0.002713	1.637	84/0
China	0.002*	0.921**	0.042	–0.357#	0.253	0.075					0.911	0.009206	1.244	82/2
Vietnam	0.005*	0.964**	–0.029	0.087	0.342	–0.222*					0.776	0.016823	1.242	69/2
Myanmmar	0.000	–0.123	–0.010			–0.038	1.208**				0.816	0.008948	3.005	84/0
Fiji	0.000	0.270**	0.147**	0.030	0.000	0.146**		0.039	0.285**	0.111**	0.989	0.002766	2.578	84/0
Papua New Guinea	0.004*	0.593**	0.074	0.318	–0.236	–0.039			0.373**		0.777	0.016713	0.951	83/1
Solomon Ilands	0.006**	0.690**	0.081	–0.237	–0.187	0.068		0.327	0.045	–0.056	0.833	0.012653	2.471	84/0
Tonga	–0.001	0.435**	0.017	0.080	–0.041	–0.011		–0.187#	0.469**	0.215**	0.976	0.004828	1.786	84/0
Western Samoa	0.002	0.372	0.057	–0.152	0.113	0.059		0.148	0.336**	0.025	0.778	0.014982	2.675	84/0

Note: Double asterisks (**), single asterisks (*), and sharps (#) denote respectively that the coefficients are statistically significant at the 1%, 5%, and 10% levels.

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vis-à-vis the major industrialized currencies, particularly the Japanese yen, the large weight on the U.S. dollar in the exchange rate policy of East Asian economies resulted in overvaluation of their currencies on a real, effective basis. Sustained overvaluation of their currencies was an important factor behind a slowdown in exports, leading to unsustainable levels in the current account.

D. *Financial System Fragility*

The root cause of the current East Asian currency crisis lies in financial system fragility. The ASEAN countries and Korea embarked on financial market deregulation and capital flow liberalization in the second half of the 1980s, and the process of liberalization was accelerated in the 1990s. However, their financial systems were not resilient enough to adjust themselves to an increasingly global environment. Commercial banks and NBFIs had not acquired sufficient know-how, technologies, expertise, or human capital to perform prudent asset-liability management and risk controls. The authorities continued to provide an explicit or implicit guarantee to protect liabilities of financial institutions or to not let important financial institutions go bankrupt, thereby creating serious moral hazard problems in the financial sector. In addition, the supervision system and disclosure standards were generally weak, and regulations over NBFIs were extremely lax.

Under these general circumstances, Thai commercial banks and finance companies borrowed large amounts of short-term capital from abroad and aggressively extended loans for domestic investment, not only in tradable industries but also nontradable sectors such as real estate, construction, and consumer loans. Korean commercial banks and merchant banks also borrowed short-term capital abroad to finance domestic manufacturing investment by *chaebols*. In Indonesia, a large number of new commercial banks were created in the late 1980s as a result of financial market deregulation, but most of the existing 240 or so banks were small and weak with large non-performing loans. Though Indonesian banks' borrowings from abroad were not significant, corporate business firms borrowed heavily from abroad. In Thailand and Korea, the loan/deposit ratios went up during the boom period in the mid-1990s.

The collapse of the bubble economy in Thailand and the investment boom in Korea resulted in the consequent weakening of their domestic financial institutions. This was particularly noteworthy in Thailand; with land prices sliding and the stock market virtually collapsing, commercial banks and finance companies faced enormous management difficulties. In the face of the deteriorating quality of financial institutions' assets, net inflows of foreign capital were curtailed and forward sales of the baht mounted, which in turn aggravated the financial positions of weak banks and finance companies. Commercial banks and merchant banks in Korea also faced financial distress once massive sales of the won began, which induced further selling of the won. Essentially, large inflows of short-term capital had been directed to unproductive sectors of the economy, and the subsequent collapse of the boom resulted in financial crisis. The financial crisis meant a loss of confidence in the economy and currency.

E. *Wide-spread Regional Contagion*

Soon after Thailand allowed baht depreciation in July 1997, currency attacks spread all over the region. The Philippine peso, the Indonesian rupiah, and the Malaysian ringgit all came under severe attack in July and August. When the unsuccessful speculative attack on the Hong Kong dollar in October was spread to Korea, the won started to depreciate dramatically over the following two months. The severity of the currency attacks in each of these countries other than Thailand was puzzling because the economic fundamentals of these countries were much better than those in Thailand.

This regional contagion was remarkable in its speed and scope. The reason such a large-scale contagion occurred is that the East Asian economies, particularly the ASEAN countries, were perceived to be closely linked with each other in real economic activity and similar in their financial and economic structures, so that the Thai baht depreciation was believed to be accompanied by the neighboring countries' currencies. The depreciation of these currencies then worsened the financial positions of borrowers of foreign currency (commercial banks, NBFIs, and corporate firms), which induced further depreciation of the respective currencies.

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IV. LESSONS

The East Asian currency crisis shows that even the supposedly most dynamic East Asian economies can come under serious currency attack once confidence in the currency is lost. There are five lessons one can learn from this episode.

A. *Sound Management of the Macroeconomy and the External Account*

Any emerging economy must maintain sound macroeconomic policies, a viable exchange rate regime, and a resilient financial system in order to prevent a currency crisis from occurring in the first place. Sound macroeconomic policies include stable fiscal policy over the business cycle and non-inflationary monetary policy. They must be used in conjunction to achieve both internal balance (full employment and low inflation) and external balance (sustainable current account) simultaneously. In particular, macroeconomic policies must be used to avoid overvaluation of the currency, unsustainable current account deficits, and excessive capital inflows.

B. *Proper "Sequencing" of Capital Account Liberalization*

A proper "sequencing" of capital-account liberalization is highly recommended to maintain stable currency. The traditional literature on "sequencing" has emphasized that capital account liberalization must be preceded by the creation of stable macroeconomic conditions, current account liberalization, and domestic financial market deregulation. The experience of the East Asian currency crisis has shown that in addition to these traditional sequencing steps, the country must establish a resilient and strong domestic financial system. That is, to cope with financial and capital account liberalization, domestic financial institutions must have the capabilities and expertise to manage assets, liabilities, and inherent risks, efficiently and the authorities should maintain a solid framework of adequate supervision and strong disclosure and accounting standards without providing guarantees to the financial institutions. Once a resilient financial system is in place, excessive capital inflows through financial institutions and rapid capital outflows will be less likely to have an adverse impact on the domestic financial system and economic activity in general.

Once large-scale capital inflows and outflows occur and create speculative pressure on the exchange rate, appropriate policy responses are needed. They include intervention in the foreign exchange market, changes in monetary policy, and the use of exchange rate flexibility as an option. Temporary introduction of capital controls in the form of imposing liquidity or higher reserve requirements on short-term capital inflows to financial institutions may also be effective in avoiding undesirable and rapid exchange rate fluctuations, though they should not be used as a permanent instrument.

C. *A Viable Exchange Rate Regime Reflecting Diverse Economic Linkages*

The East Asian currency crisis is expected to reduce the role of the U.S. dollar in the region's exchange rate regime. The reason is that the East Asian economies have diverse linkages with the rest of the world in trade and FDI. Table 4 indicates that for any East Asian economy, the United States is not the single most dominant trade partner or FDI source. Rather, Japan and the European Union are equally important, and other East Asian economies often are more important. It is therefore more appropriate for the East Asian economies to stabilize their exchange rates with respect to a basket of currencies consisting of not only the U.S. dollar but also the Japanese yen, the euro (after January 1, 1999), and some regional currencies. This suggests that these economies should reduce the role of the U.S. dollar and increase the role of the yen and the euro as nominal anchor currencies in East Asia.

Given the rising degree of intra-regional trade and investment interdependence, however, each economy in East Asia is expected to attempt to avoid large fluctuations in intra-regional exchange rates. This is particularly the case for ASEAN countries which are expected to complete the ASEAN Free Trade Agreement (AFTA) by the year 2003 by lowering tariffs on manufactured products below 5%. Large swings in exchange rates among the ASEAN countries would be counterproductive because they would alter international price competitiveness suddenly and make the pro-

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TABLE 4

Percentage Shares of the United States, the European Union, Japan, and East Asia in the Total International Transactions of the Individual East Asian Economies

	Exports (1996)					Imports (1996)				
	United States	European Union	Japan	East Asia	Total	United States	European Union	Japan	East Asia	Total
Singapore	18.4	13.0	8.2	46.8	100.0	16.4	14.5	18.2	37.9	100.0
Hong Kong	21.3	14.9	6.6	45.1	100.0	7.9	11.1	13.6	60.4	100.0
Taiwan	26.8	13.6	12.9	45.0	100.0	18.2	15.3	25.7	23.0	100.0
Korea	16.7	10.8	12.3	35.9	100.0	22.1	14.1	20.9	15.9	100.0
Malaysia	18.2	13.7	13.4	43.2	100.0	15.6	14.5	24.7	32.6	100.0
Thailand	18.0	16.0	16.8	32.7	100.0	12.6	14.5	27.8	24.3	100.0
Philippines	33.9	15.9	17.9	25.3	100.0	19.7	9.4	21.8	28.3	100.0
Indonesia	16.4	16.6	28.5	29.7	100.0	10.2	22.2	23.2	29.4	100.0
China	17.7	13.1	20.4	35.0	100.0	11.7	14.3	21.0	34.0	100.0
Vietnam	4.5	24.3	26.4	24.1	100.0	5.0	13.0	9.2	57.1	100.0
East Asia	19.8	13.7	13.5	40.0	100.0	14.3	14.0	20.3	35.1	100.0

	Foreign Direct Investment Inflows (1995)					Outstanding Loans from BIS-Reporting Banks (June 1997)				
	United States	European Union	Japan	Asian NIEs	Total	United States	European Union	Japan	Asian NIEs	Total
Singapore	42.8	31.1	23.8	n.a.	100.0	2.5	53.7	30.8	n.a.	100.0
Hong Kong	13.7	18.0	53.2	0.3	100.0	4.0	44.7	39.3	n.a.	100.0
Taiwan	43.6	8.3	19.5	13.9	100.0	10.0	57.4	12.0	n.a.	100.0
Korea	33.2	24.5	21.5	6.8	100.0	9.6	35.1	22.9	n.a.	100.0
Malaysia	19.7	7.9	22.9	35.3	100.0	8.3	44.0	36.4	n.a.	100.0
Thailand	15.7	13.7	47.8	32.0	100.0	5.8	28.5	54.4	n.a.	100.0
Philippines	9.4	2.7	75.1	11.9	100.0	20.0	48.1	14.9	n.a.	100.0
Indonesia	6.9	22.4	9.5	11.2	100.0	7.8	38.3	39.4	n.a.	100.0
China	8.2	7.0	8.3	64.1	100.0	5.1	48.5	32.3	n.a.	100.0
Vietnam	8.1	16.8	17.3	35.3	100.0	6.9	67.3	16.6	n.a.	100.0
East Asia	20.1	15.2	29.9	21.1	100.0	5.5	44.7	34.3	n.a.	100.0

Sources: International Monetary Fund, Direction of Trade Yearbook 1996. Japan External Trade Promotion Council, White Papers on Foreign Direct Investment 1997. Bank for International Settlement, The Maturity, Sectoral and Nationality Distribution of International Bank Lending, First Half 1997 (Basle, January 1998).

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spective free trade agreement unsustainable. If ASEAN countries are to stabilize their mutual exchange rates, they should adopt similar currency baskets, reflecting the degree of economic linkages with the United States, Japan, and the European Union. Each economy might find a currency basket that will yield relatively stable exchange rates vis-à-vis other ASEAN countries. Other East Asian economies might follow similar exchange rate policies.

D. *A Resilient Financial System*

To manage a currency crisis, a preventive policy must be in place to ensure a stable financial system by maintaining prudent financial institutions and effective supervisory mechanisms. Such a system is imperative if countries wish to enjoy the fruits of financial and capital-account liberalization. A sound and stable financial system must be regarded as a prerequisite to wholesale liberalization of the capital account. One way to ensure prudent financial institutions in an emerging economy is to strengthen the regulatory framework over commercial banks and NBFIs and to introduce measures to strengthen the financial positions banks and NBFIs. For this purpose, it is desirable to impose capital adequacy requirements more demanding than those of the BIS and to require tighter loan classification and provisioning rules. A strong financial position is likely to make banks and NBFIs more resilient in weathering adverse macroeconomic fluctuations and asset price gyrations.

E *Cooperative Frameworks for Regional Financial Management*

East Asia's deepening financial interdependence with the rest of the world implies that the region's economies increasingly are facing greater risks of sudden capital inflows and outflows, increased pressure on their exchange rates, and undesirable effects on their local financial institutions. In a world of increased financial linkages, a currency crisis in one country spreads easily to other neighboring countries. Because contagion is geographically concentrated, a regional arrangement for financial coordination is logical. An efficient cooperative framework for regional financial management is highly recommended to cope with serious currency crises and contagions.

The East Asian economies have developed a network of bilateral repurchase agreements and several fora, in the form of EMEAP (Executive's Meeting of East Asia and Pacific Central Banks), the Six Markets Meeting, and the APEC Finance Ministers Meeting, for financial cooperation by finance ministers and central bankers. One of their objectives is to establish a cooperative framework to cope with possible currency and financial crises through frequent exchanges of information and bilateral repurchase agreements involving U.S. dollar-denominated foreign exchange reserves. In addition to these existing regional arrangements, a framework of regional financial cooperation has emerged spontaneously in the wake of the currency crisis. In response to the baht and rupiah crises, multilateral financial institution's financing (IMF, the World Bank, and the ADB) was supplemented by the financing from the regional economies including those in developing East Asia.

With these various arrangements and frameworks supplemented by an effective regional surveillance mechanism, each economy in the region is expected to be under peer pressure to pursue disciplined macroeconomic policies that are conducive to stable currencies.

V. CONCLUSION

At the time of writing, the Hong Kong dollar and the Chinese renminbi remain firm despite massive speculative attacks on the Hong Kong dollar. An important question is whether China can maintain the current exchange rate once speculators decide to attack its currency. Though China has a large warchest of foreign exchange reserves and favorable external accounts, its international price competitiveness has been reduced due to the depreciation of East Asian currencies, and its domestic banks are known to have accumulated large non-performing loans against state-owned enterprises. There is no doubt that a successful speculative contagion and the consequent devaluation of the renminbi would exacerbate East Asia's financial and economic difficulties and could trigger another round of speculative attacks. This time, contagion may not be limited to just the East Asian region. It might spread to other emerging economies all over the world.

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