



**Managing Capital Flows:
The Case of Thailand**

Kanit Sangsubhan

March 2008

ADB Institute Discussion Paper No. 95

Kanit Sangsubhan is director of the Fiscal Policy Research Institute (FPRI) of the Ministry of Finance in Thailand. He serves as a director of the Dhanarak Asset Development Board, an asset management cooperation of the government. He is also an independent director of TISCO Bank Plc. In the past, he was the director of the Overall Planning Division at the National Economic and Social Development Board, advisor to Deputy Prime Minister (Supachai Panichpakdi), a visiting scholar of the Asian Development Bank Institute (ADBI) and a member of the Advisory Board for ADBI. The author wishes to express his gratitude to Olan Chipravat for his advisory role and to Cholachit Vorawangso for her excellent assistance.

The views expressed in this paper are the views of the author and do not necessarily reflect the views or policies of ADBI, the Asian Development Bank (ADB), its Board of Directors, or the governments they represent. ADBI does not guarantee the accuracy of the data included in this paper and accepts no responsibility for any consequences of their use. Terminology used may not necessarily be consistent with ADB official terms.

ADBI's discussion papers reflect initial ideas on a topic, and are posted online for discussion. ADBI encourages readers to post their comments on the main page for each discussion paper (given in the citation below). Some discussion papers may develop into research papers or other forms of publication.

This discussion paper is part of the "Managing Capital Flows: Search for a Model" project.

Suggested citation:

Sangsubhan, Kanit. 2008. Managing Capital Flows: The Case of Thailand. ADBI Discussion Paper 95. Tokyo: Asian Development Bank Institute. Available:
<http://www.adbi.org/discussion-paper/2008/03/10/2502.managing.capital.flows.thailand/>

Asian Development Bank Institute
Kasumigaseki Building 8F
3-2-5 Kasumigaseki, Chiyoda-ku
Tokyo 100-6008, Japan

Tel: +81-3-3593-5500
Fax: +81-3-3593-5571
URL: www.adbi.org
E-mail: info@adbi.org

© 2008 Asian Development Bank Institute

Abstract

The impressive recovery of Asia from the severe 1997–98 financial crisis has been achieved through, among other things, more flexible exchange rates, remarkable reductions of double mismatches in the banking systems, current account surpluses, increasing volumes of foreign direct investment, and accumulations of international reserves. New challenges have now come into view as the Asian economies have to deal with massive capital inflows. This paper aims to explain the overall picture of Thailand as regards the magnitude, types, allocation of capital inflows, impacts of the capital inflows on the financial system—the exchange rate and the interest rate—and impacts on the real sector of the economy. Additionally, a review of existing policies is carried out, together with a presentation of the policy challenges and further policy recommendations.

JEL Classification: E44, G15

Contents

I.	Major Features of the 1997–98 Asian Financial Crisis	1
	1.1 Causes of the Crisis	1
	1.2 Fixed Exchange Rate and Massive Capital Inflows	2
II.	Magnitudes and Types of Capital Inflows and Outflows in Thailand Since the Asian Financial Crisis	4
III.	Assessing the Impacts of Capital Inflows	8
	3.1. Financial System	8
	3.2. Real Sector	13
IV.	Current Measures and Policy Implications	14
	4.1 Thailand’s Capital Controls	14
	4.2 Assessment of Policies and Measures adopted by the Monetary Authorities of Thailand to Manage Capital Flows after the 1997 Crisis	23
V.	Policy Challenges—What Lies Ahead?	24
	5.1 Policy Recommendations for Preventing Another Capital Account Crisis	24
	5.2 Future Regional Co-operation	26
	5.3 Possible Massive Flows of Capital—Appropriate Policy Responses for Thailand	29
	Appendix 1	31
	Appendix 2	36
	References	45

I. MAJOR FEATURES OF THE 1997–98 ASIAN FINANCIAL CRISIS

1.1 Causes of the Crisis

The Thai economy showed an impressive growth path for over a decade before the financial crisis in 1997. The current account deficit barely exceeded 5% and the high growth generated budget surpluses for many years. At the same time, massive capital inflows were accumulated progressively along with a high interest rate differential and under fixed exchange rate regime, including capital account deregulation. Thailand had opened up for a higher degree of capital liberalization since the early 1990s. The Bangkok International Banking Facilities (BIBF) scheme was set to facilitate the process. Therefore, the out-in facility became a new channel for gaining low interest rate funds from abroad. In addition to BIBF, monetary policies such as the defense of domestic currency and high interest rate policy were imposed to assist capital flows across borders. These policies encouraged capital inflows by introducing low currency risk for investors and higher returns relative to the low returns in the international market.

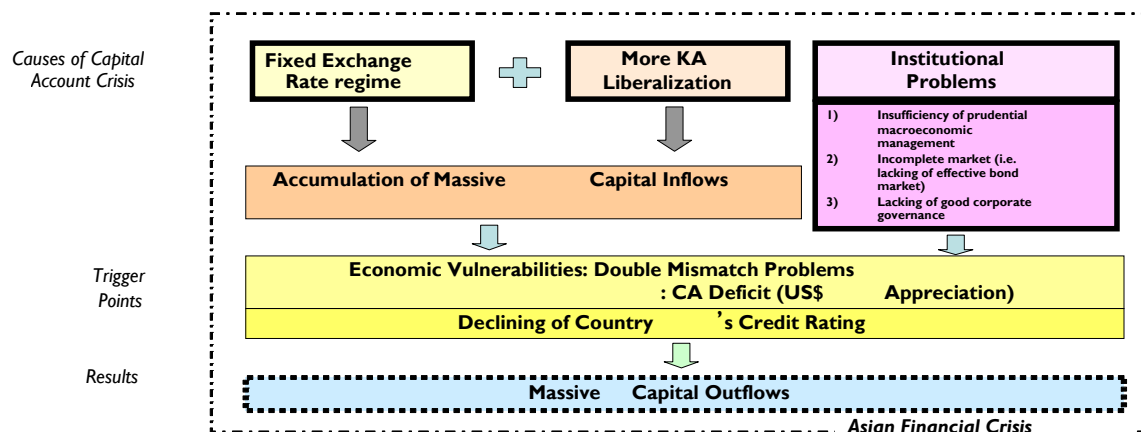
Nevertheless, the favorable time was not long-lasting. Foreign funds were poured into the country to take advantage of the high interest rate differential and to gain from baht depreciation. The circumstances worsened through short-term borrowing abroad, primarily to finance long-term projects, leading to currency and maturity mismatches. As a result, a balance-sheet crisis occurred due to sudden capital outflows. The foreign short-term liabilities had exceeded international reserves in 1996. As soon as the baht was floated, foreign debt in local currency overshot, the sovereign rate of Thailand decreased, and then investors' sentiments were adversely affected.

Finally, the impressive economic growth of Thailand concealed weaknesses, while the crisis was activated by improper policies as follows:

- Sustaining a fixed exchange rate when it was no longer suitable,
- Allowing too many short-term capital flows to accumulate with a high degree of currency speculation,
- Lacking a sufficient risk management system at the national level as well as regional level.

In summary, the Asian financial crisis contains the fundamental features of a classic capital account crisis, which can be illustrated in the following figure.

Figure 1: Nature of the Asian Capital Account Crisis



Source: FPRI (2007).

1.2 Fixed Exchange Rate and Massive Capital Inflows

As early as 1995, Credit Lyonnais warned that Thailand resembled the pre-peso crisis in Mexico (Akrasanee, 1999), where risks associated with an over-valued currency had been downplayed. To minimize these, the “two-corner solution” was offered: only free floating or currency board systems could be sustained in the long run. The World Bank agreed and in the same year recommended Asian countries including Thailand to relax their rigid or quasi-pegged exchange rate regime.

Prior to the crisis, strong macroeconomic performance and the relative stability of the exchange rate naturally led both borrowers and lenders to underestimate the risk of their foreign currency exposure. The large unhedged foreign debt and its short maturity left the country vulnerable to capital flight and a sharp devaluation.

The rapid build-up in private short-term capital inflows created the potential for *double mismatch problems*. As in many Asian countries, bank financing historically played a leading role in economic development, with relatively undeveloped equity and debt markets. Currency pegging gives confidence to investors but this alone cannot explain Asia's emergence in the world capital market. By the mid-1990s, Asian states including Thailand, Malaysia, and Indonesia had opened up their capital account more to attract investment. During the 1990s, the Thai government expanded the scope for overseas short-term borrowing by removing controls on such borrowing, thus dramatically increasing short-term external debt and resulting in creating *maturity mismatch*. The positive spread between domestic and foreign interest rates combined with the relative stability in the exchange rate also helped to draw large inflows of foreign capital. For example, Thailand's financial institutions borrowed short-term overseas in order to help finance long-term investments. Coupled with the underdeveloped market for hedging, there was little incentive to hedge against exchange rate risk.

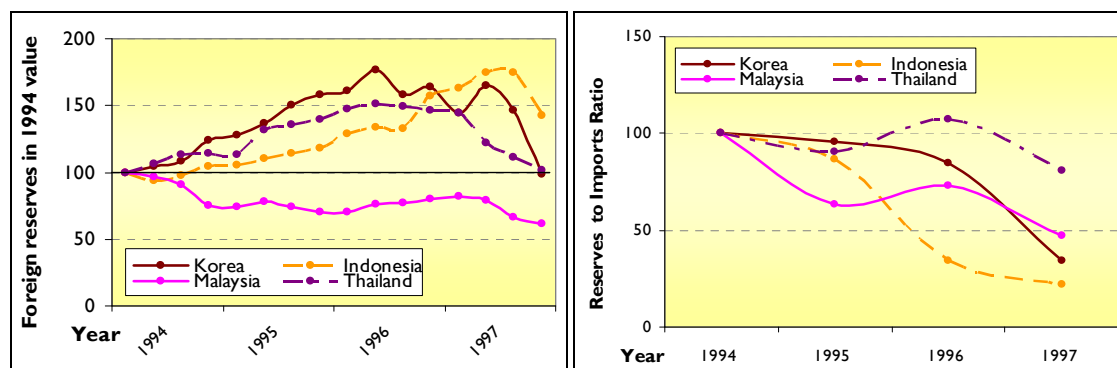
Results were uniform: because of greater capital account deregulation, high interest rate differential, and the belief that the fixed exchange rate regime would be sustained, Thailand experienced huge success in accumulating short-term foreign capital in foreign currency (mainly US\$), while investing in long-term projects, which generated returns in local currency. The maturity mismatch then came to prevail in Thailand and some other Asian countries. The average size of capital inflows expanded from 7% of GDP in 1988 to 13% in 1995 (Edwards, 1999). By 1996, the total capital inflows as a percentage of GDP for Indonesia, Malaysia, the Philippines, and Thailand were 5.1, 10.2, 4.1, and 11.5, respectively (Cavoli and Rajan,

2005). The corresponding numbers as a percentage of international reserves were then 154.5, 60.4, 114.6, and 89.6 for these respective countries.

Part of the capital inflows appeared to be portfolio investment. In Thailand, portfolio capital inflows in 1993 increased by 10 times from the 1987 figure (Akrasanee, 1999). Calvo, Leiderman, and Reinhart (1995) had warned that such massive portfolio inflows could create problems for policymakers. The flows may not be “intermediated efficiently” and sudden reversal may turn the country’s economic fortunes upside down overnight. Because reckless portfolio investment can easily be pulled out, such investment contributed little to productivity but created rapid credit expansion, thereby strengthening the boom-bust business cycle and building up financial vulnerability (McKinnon and Pill, 1996). Although the stock market started to take a downturn after its 1994 peak and the number of Bangkok’s unoccupied houses increased to twice the annual demand, no one anticipated the emergence of a deep financial distress.

However, in the case of Thailand, the large part of capital inflows came in the form of commercial bank borrowing. Due to an underdeveloped swap market, inadequate internal risk evaluation, and government guarantee for banks against their failures, the foreign debts made by the banks and private businesses were mostly unhedged (Sangsubhan, 1999). The total external indebtedness surpassed 50% of GDP even prior to the baht floatation (Rudolph, 2000), and the short-term bank loans exceeded twice the volume of gross international reserves by the end of 1996 (Yoshitomi and Shirai, 2000). Moreover, a large proportion of these were non-performing loans (NPLs): 10% and 13% of total lending in Malaysia and Thailand, respectively, which is incredibly high when Hong Kong, China and Singapore’s figures were at the 3–4% level (Edwards, 1999).

Figure 2 (left) and Figure 3 (right): International Reserves and Reserves—Imports Ratio Compared with the 1995 Baseline



Source: FPRI (2007).

The above sub-section focuses on exchange rate management,; here the issue regarding the “when” dilemma of capital account liberalization is raised. In Edwards (1999), developing nations should open their capital accounts only after key objectives of reforms, such as fiscal stabilization, trade reform, and the implementation of modern supervision have been attained. He added, “some form of impediments to capital mobility [might] be retained until ... the domestic banking sector is strong enough.” Stiglitz (1999) cannot agree less: “you want to look for policies that discourage hot money but facilitate the flow of long-term loans.”

Table 1 and Table 2: Correlation Coefficients of Crisis-period Contagion Testing of Foreign Exchange (left) and Stock Markets (right)

	KOR	INO	MAL	THA	TAP	SIN		KOR	INO	MAL	THA	TAP	SIN
Korea, Rep. of	-							-					
Indonesia	0.05	-						0.09	-				
Malaysia	0.23	0.26	-					0.10	0.44*	-			
Thailand	0.25	0.37	0.35	-				0.10	0.40*	0.51*	-		
Taipei,China	0.16	0.16	0.27	0.21	-			0.14	0.15*	0.25*	0.28*	-	
Singapore	0.13	0.48	0.47	0.43	0.29	-		0.04	0.36*	0.67*	0.44*	0.26*	-

Notes: KOR=Republic of Korea; INO=Indonesia; MAL=Malaysia; THA=Thailand; TAP=Taipei,China; SIN=Singapore

* Denoting z statistical significance at 5% level.

II. MAGNITUDES AND TYPES OF CAPITAL INFLOWS AND OUTFLOWS IN THAILAND SINCE THE ASIAN FINANCIAL CRISIS

The Asian financial crisis caused massive capital outflows that drove out foreign capital and caused dramatic Thai baht depreciation in a short period of time. Obviously, the financial crisis was closely related to the role of capital flows. As a result, it is important to take a closer look at the development path of the capital flows in Thailand since the crisis. There are five major channels of capital flows: current account, foreign direct investment (FDI), equity securities, debt securities, and loans, when the equity and debt securities are accounted as portfolio investment (see Table 3 for more details).

Table 3: Annual Capital Inflows in Thailand, 1997—Present

Annual Flow of Foreign Currency (Million USD)	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	Jan-Aug 2007
Current Account	-3,110	14,291	12,466	9,328	5,114	5,114	4,784	2,767	-7,852.17	3,240.46	7,356.68
FDI	3,180	5,019	3,218	2,761	4,793	4,793	4,608	4,952	7,297.18	9,562.99	5,310.77
Equity Securities	3,987	265	946	897	17	17	583	180	2,157.60	4,743.99	3,907.59
Debt Securities	563	118	-555	-791	-660	-660	-827	17	487.26	-266.52	-1,269.62
Others (Corp & Gov loans + Trade Credits)	-11,282	-9,211	-4,894	-7,056	-5,527	-5,527	-9,293	-7,232	3,042.47	3,757.69	-1,863.56
Total USD inflow	-6,662	10,482	11,181	5,139	3,737	3,737	-145	684	5,132.34	21,038.61	13,441.86

Source: FPRI (2007).

The overview picture is then represented. The major flows come from the large magnitude of the current account, while the steadiest flow is observed in the FDI flow. Nevertheless, fluctuation occurs in every type of capital flow since 2005.

In a later subsection, we will illustrate each channel of capital flow in Thailand in more detail, and monthly capital flow movement from September 2006—August 2007 and highlights of capital flows in Thailand during the past two years will be presented in Tables 4 and 5.

Table 4: Thailand's Monthly Capital Flows (September 2006–August 2007)

	2006				2007							
	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug
CA	826.09	855.85	1,511.87	1,214.78	1,340.05	1,492.29	2,085.30	-125.37	246.18	1,201.64	382.01	734.58
inflow	11,208.67	11,504.33	12,010.06	11,325.82	11,100.53	11,701.80	12,982.61	10,769.00	12,429.24	12,817.49	12,066.15	13,579.53
outflow	-10,382.57	-10,648.48	-10,498.19	-10,111.04	-9,760.48	-10,209.51	-10,897.31	-10,894.36	-12,183.06	-11,615.85	-11,684.15	-12,844.95
FDI	-357.11	422.27	610.63	778.47	1,148.65	277.86	368.67	594.79	975.41	837.61	485.77	622.00
inflow	2,258.72	2,383.47	2,072.68	1,897.06	1,474.69	958.07	1,419.36	1,513.45	1,636.54	1,894.93	1,273.29	1,562.00
outflow	-2,615.83	-1,961.20	-1,462.06	-1,118.59	-326.04	-680.21	-1,050.70	-918.66	-661.13	-1,057.31	-787.51	-939.00
Equity	587.73	412.47	437.94	-614.36	424.35	592.92	54.42	430.59	967.57	1,124.49	1,367.25	-1,054.00
inflow	3,071.14	2,858.71	3,494.27	3,308.33	3,728.39	2,798.63	2,352.74	2,249.82	3,556.46	4,944.29	5,678.23	3,600.00
outflow	-2,483.41	-2,446.24	-3,056.33	-3,922.69	-3,304.04	-2,205.71	-2,298.32	-1,819.23	-2,588.90	-3,819.80	-4,310.97	-4,654.00
Debt	113.40	382.11	-515.39	117.71	-21.37	-208.09	13.69	-671.03	14.64	-298.54	-151.93	53.00
inflow	391.51	561.92	501.44	450.65	96.64	123.36	338.91	484.89	253.86	84.34	178.29	374.00
outflow	-278.11	-179.81	-1,016.83	-332.94	-118.01	-331.46	-325.22	-1,155.91	-239.23	-382.87	-330.22	-321.00
Loans, others, errors & omissions	-65.60	192.29	624.41	991.29	593.00	143.16	-39.22	742.25	-1,132.26	-954.19	47.69	-1,264.00
inflow	4,538.33	5,133.88	4,760.13	6,483.08	4,734.96	4,185.65	4,658.36	5,078.14	3,364.09	5,173.95	4,889.62	3,881.00
outflow	-4,603.93	-4,941.58	-4,135.72	-5,491.79	-4,141.96	-4,042.49	-4,697.58	-4,335.89	-4,496.35	-6,128.13	-4,841.92	-5,145.00

Source: FPRI (2007).

Table 5: Capital Inflows in Thailand, 2006–2007

Flow of Foreign Currency (Mil. USD)	2006			2007	
	Jan-Nov 06	Dec 06	Y2006	Jan-Jul 07	Y2007
Current Account	2,026	1,215	3,240	6,622	16,000
Foreign Direct Investment	8,785	778	9,563	4,689	11,878
Equities	5,358	-614	4,744	4,962	11,438
Debt	-384	118	-267	-1,323	-2,289
Others (corp. & gov loans + trade credit + others + error)	3,078	991	4,069	-520	-2,841
Total USD inflow	18,862	2,488	21,350	14,429	34,186
Estimated bought (sale -) by	9,291	-683	8,608	8,520	
Estimated bought (sale -) by	9,571	3,171	12,742	5,910	

Source: FPRI (2007).

First, the current account is composed of a high proportion of the trade balance: exports and imports. After the Thai baht depreciated in July 1997, the current account of Thailand progressively improved from negative to positive values. Depreciation of the currency caused a strong impact on the trade balance through changes in exports and imports. The volume of exports increased gradually during the first year after the relaxation of the fixed exchange rate regime, while the volume of imports showed a huge decline. Competitiveness was

generated via the currency depreciation as the volume of exports consistently increased over time. The current account balance remained positive, while fluctuating slightly at certain times.

Nevertheless, the fluctuation became stronger after 2003 with evidence of increasing imports. Basically, the changes in the current account were caused mostly by changes in the trade balance.

Second, FDI is a large proportion of capital flows in the economy. Net FDI during the past 10 years fluctuated slightly as shown in Table 3. During the early period after the crisis, the fluctuations likely came from changes in FDI inflows while the volume of FDI outflows varied within a narrow range. The magnitude of FDI inflows of this period was low, as was the level of FDI outflows. The reason for this low magnitude was that the crisis drove FDI away from the local economy. The loss of confidence in the Thai economy stimulated the capital flight. As a result, the economy needed some time to adjust and to regain foreign and domestic confidence, including recovering from the downturn caused by the crisis.

The magnitude of foreign direct investment to Thailand has varied over time but has remained positive over the past 10 years. The volume of net FDI increased to an upper level with high fluctuation throughout the year. The considerable amount of FDI inflows in 2006 suggests that favorable government policies to persuade foreign investment inflows are succeeding. Nevertheless, the magnitude of Thai direct investment going abroad has stayed relatively low. The baht appreciation may discourage Thai investors from investing abroad. The level of Thai direct investment outflows may lower to a certain degree, also reflecting the relatively low capability of Thai investors in that respect.

Since late 2000, the volume of FDI inflows has increased at a progressive rate, as has the volume of FDI outflows. These changes generated a constant trend of net FDI in a narrow range. This indicates that the economy probably gained back some credit in the world economy by exercising efficient policy management, e.g., exchange rate regime, strengthening prudential regulation, capital market development, and restricted holding of domestic currency by non-residents (Sangsubhan and Vorawangso, 2007). With a higher level of capital inflows or FDI inflows, the value of the Thai baht has gotten stronger and gained higher confidence from Thai and foreign investors.

Third, the channel of portfolio investment in equity securities represents constant net flows over 10 years. The equity net flows show a consistent trend during the years 1998 to 2004 where the magnitude of equity stayed at a low level. After the baht depreciation, the magnitude of equity investment, both inflow and outflow, consistently decreased to a very low level, especially in late 2000. The magnitude of net equity flows reached a negative value in 2001 when the equity inflow was lower than the equity outflow. Based on consideration of the government policy in the early stage after the onset of the financial crisis, a tight monetary policy and a high rate of interest were introduced in order to restore confidence and to stabilize the exchange rate.

Nevertheless, the sustained high interest rate did not seem to work efficiently because people still lacked confidence in the Thai economic system. The high interest rate adversely affected the micro economy by lowering firms' ability to repay their loans, which led to a credit crunch and economic recession. This circumstance finally discouraged foreigners' incentive to invest in the Thai stock exchange as shown in the decreasing trend of equity securities investment.

At the same time, not only was the difference between inflow and outflow low, but the volumes of each flow were also low. The trend of equity flows swung in a narrow range until

late 2004 and then it recovered to drift upward in November 2004. Interestingly, the magnitudes of inflows and outflows have expanded significantly since 2005–2006.

Fourth, another channel of portfolio investment is represented by debt securities. The overall trend of debt-securities net flows showed consistency over time from 1998 to 2004. The magnitude of inflow decreased dramatically right after the crisis in July 1997. As a result, the trend of net flow reached a negative level after baht depreciation. The volume seemed to bounce up again in 1998 but only for a short period of time. Small magnitudes of inflows and outflows were shown with a higher level of outflows than inflows.

The negative value of net flow was represented for a long period of time from 1999 to 2005 along with a minor fluctuation from time to time. Since the year 2005, the trend of debt securities net flow has fluctuated somewhat even though the magnitude of flows was not as large as those from other capital flow accounts. If the interest rate decreases further, capital investment will tend to flow more into this sector in order to obtain interest receipt and capital gain.

In the beginning of 2005 the volume of debt inflow increased, but with variability. From November 2006 to August 2007, the magnitude of the debt inflow declined to a very low point, eventually becoming negative. One possible explanation came from the BOT's regulation of capital outflow (the so-called 30% regulation) that drove people from investing in bonds. The 30% reserve requirement imposed on foreign capital inflows, issued by the Bank of Thailand on 18 December 2006, severely hit the domestic bond market. The massive sales pushed down the rate of return on 10-year government bonds by 0.32% in one day. By the end of the month, the return on 10-year and 19-year government bonds jumped by 0.52 and 0.63%, respectively. Policy reversal was made in the case of the equity market, but not in the bond market. Activity in the bond market remains very slow.

The final type of capital flow comes from loans and others. The flows of loans and others have decreased since the onset of financial crisis in 1997. The volume of foreign loans, leading to the net flow, in terms of US dollars skyrocketed right after the crisis due to sudden baht depreciation. Nevertheless, we can still see fluctuation over time.

The capital flows in the commercial bank sector dropped to further negative values right after the financial crisis due to sudden baht depreciation. This fluctuation was due more to changes in the value of assets than to changes in liability. This negativity was shown explicitly in the values of commercial banks' capital flow. After the crisis, the flows to BIBFs stayed at a negative level for a certain period of time. Then the trend went up and since 2001 has swung within a small range. The negativity of the flows to BIBFs was dominated by changes in liabilities, which represented a much higher amount in comparison with changes in assets. Therefore, the magnitude of flows to BIBFs has been governed by the change in liabilities.

The magnitudes of flows dropped rapidly in 2005 with considerable fluctuations of flows existing across time. The net flow appeared in the negative most of the time. Considering the trend of Thai loans alone, the magnitude of loans has stayed at a low level and the fluctuation has been hardly seen for the past decade. This apparently implies that there is a large proportion of foreign loans in this sector that affect the economy development path.

Changes in loans' magnitudes could be caused by a change in interest rate and also a change in exchange rate if we consider these changes in the terms of foreign (US dollar) currency. Interestingly, the outflows of foreign loans increased gradually since the beginning of 2007 after a sharp drop during the middle of 2006. This change might be related to the Thai baht appreciation. With a higher value of the baht, it is cheaper to borrow money from abroad, especially combined with the lower value of the US dollar. On the other hand, the net

flow of Thai loans has stayed quite steady with low volumes of both inflow and outflow while the magnitude of outflows has outweighed the magnitude of inflows.

III. ASSESSING THE IMPACTS OF CAPITAL INFLOWS

3.1. Financial System

3.1.1. Exchange Rate

The issue of the exchange rate has been discussed intensively over the past decade. It is one of the most important factors that play a crucial role after the onset of the financial crisis. With the assumption of *ceteris paribus* and under the floating exchange rate regime, an increase in capital inflows will cause the local currency to appreciate since there is a higher demand for that local currency.

In the case of Thailand, since the beginning of 2005, the capital inflows from the aforementioned five channels have increased over time. Although some fluctuations have been witnessed, the positive values of capital inflows are still presented. The accumulative effect of capital inflows has led to the country's gradual exchange rate appreciation. According to the overview of magnitude and types of capital flows, it appears that the capital inflows from the current account have increased over time. This situation is partly caused by the currency depreciation after the crisis. As a result, capital net flows from this channel have stayed positive. Furthermore, the magnitude of portfolio investment shows positive values of capital inflows in the stock exchange since 2005.

In addition to the cumulative effect of capital flows mentioned above, the US dollar's depreciation against other currencies around the world has driven up the value of the Thai baht. Foreign currency (US dollars) has flowed into the Thai economy persistently. Since the beginning of 2007, the value of the baht against the US dollar has climbed and reached the strongest value at 32.22 baht/USD on 13 July 2007, appreciating approximately 8% compared to the value at the end of 2006 (Capital Flows Weekly Focus, 27 August–19 October 2007).

Moreover, the Bank of Thailand (BOT) has exercised exchange rate intervention in the foreign exchange market. Since the flow of foreign currency, specifically the US dollar, has amplified in a short period of time, the Bank of Thailand needed to intervene in order to absorb the rapid abundance of US dollars in a short period of time. According to the FPRI's exchange rate monitoring, the continually positive value of total capital flows from the current account and equities channels have been observed during the years 2006–2007. Additionally, the excess supply of US dollars has existed since the beginning of 2007.

Figure 4: Exchange Rate Intervention

		Oct-06											FORWARD
Non Bank	SPOT	SPOT					FORWARD					FORWARD	
	NFA	CA	FDI	Equity	Debt	Loans	CA	FDI	Equity	Debt	Loans	NFA	
	Gain/Loss												
	Commercial Banks					Total Supply						Open Pos.	
						3,595.00							
		1,329.99			286.60		1,329.99		-296.01		-296.01		
	21,144.59					Total Demand						954.59	
	Outstanding					1,912.60						Outstanding	
	Gain/Loss					Excess Supply							
	422.91					1,682.40							
	709.51				286.60					1,306.00		1,306.00	
	Outstanding	Change in Reserve					Change in Net Forward Position Bought(+)/Sold(-)					5,291.00	
	62,302.19	Year to Date Accumulation					Year to Date Accumulation					Outstanding	
					8,468.00					1,451.00			
	Mark to MKT	Y-to-D loss		XR\$ (M-end)	XR\$ (avg)								
	2,288,761.42			36.74	37.34								
	-47,140.95	-242,340.27		-0.76	-0.09								
	Gain/Loss												
	-842.66												
	Commercial Banks					Total Supply						Open Pos.	
						5,990.46							
		724.00			1,102.80		724.00		2,597.00	76.00	76.00		
	21,868.59					Total Demand						1,030.59	
	Outstanding					4,347.80						Outstanding	
	Gain/Loss					Excess Supply							
	1,083.40					1,642.66							
	2,186.20				1,102.80					3,245.00		3,245.00	
	Outstanding	Change in Reserve					Change in Net Forward Position Bought(+)/Sold(-)					8,536.00	
	64,488.40	Year to Date Accumulation					Year to Date Accumulation					Outstanding	
					9,570.8					4,696.0			
	Mark to MKT	Y-to-D loss		XR\$ (M-end)	XR\$ (avg)	R/P (M-end)	Forward behaviour of Com banks' client: BOP (old concept) > 0						
	2,321,382.43			36.00	36.54	5.00	2,596.92	-2,000.00		-0.76	0.41	2,669.46	
	-47,692.40	#REF!		-0.74	-0.79	0.00	Commercial banks' behaviour: BOP (old concept) > 0						
							-1,566.73	-0.71	2,669.46	0.13	2,596.92		
	Gain/Loss												
	79.91												
	Commercial Banks					Total Supply						Open Pos.	
						4,765.80							
	21,265.59					Total Demand						1,234.59	
	Outstanding					3,958.80						Outstanding	
	Gain/Loss					Excess Supply							
	674.42					807.00							
	2,496.38				3,170.80					-1,595.00		-1,595.00	
	Outstanding	Change in Reserve					Change in Net Forward Position Bought(+)/Sold(-)					6,941.00	
	66,984.78	Year to Date Accumulation					Year to Date Accumulation					Outstanding	
					12,741.60					3,101.00			
	Mark to MKT	Y-to-D loss		XR\$ (M-end)	XR\$ (avg)	R/P (M-end)							
				36.05	35.83	5.00							
				0.05	-0.71	0.00							

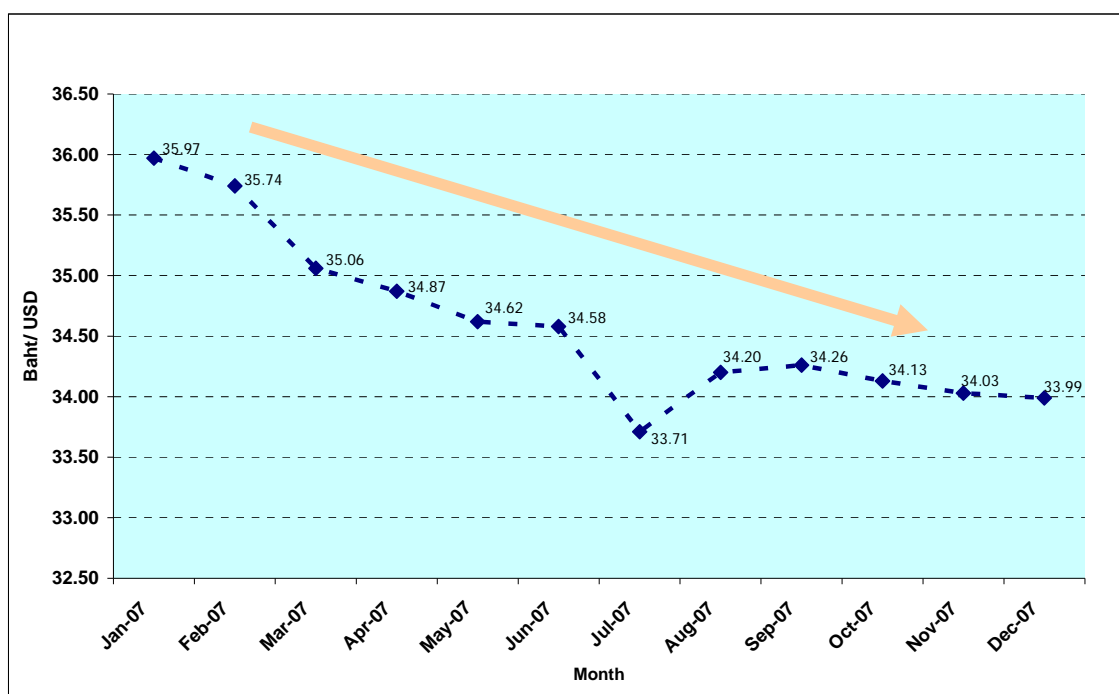
Source: FPRI (2007).

Figure 4 illustrates the exchange rate intervention in both the forward and spot exchange markets. As seen in Figure 4, the trend of capital inflows to commercial banks in the spot market showed a huge drop in August 2007 before regaining later. At this turning point, reserves increased rapidly, reflecting currency intervention in the foreign exchange market. The Bank of Thailand bought foreign currency, mostly US dollars, at the spot rate.

With a considerable increase in reserves during August and September 2007, the BOT sold foreign currency in the forward market for hedging purposes. In Figure 4, a positive value shows forward purchasing while a negative value shows forward selling by the BOT during September 2006–August 2007.

Lastly, Figure 5 demonstrates the trend of the average exchange rate in each month of the year 2007. After the Thai baht reached its strongest value in July 2007, foreign currency intervention was launched. As a result, the exchange rate began to stabilize thereafter.

Figure 5: Average Exchange Rate (Baht/USD) in 2007



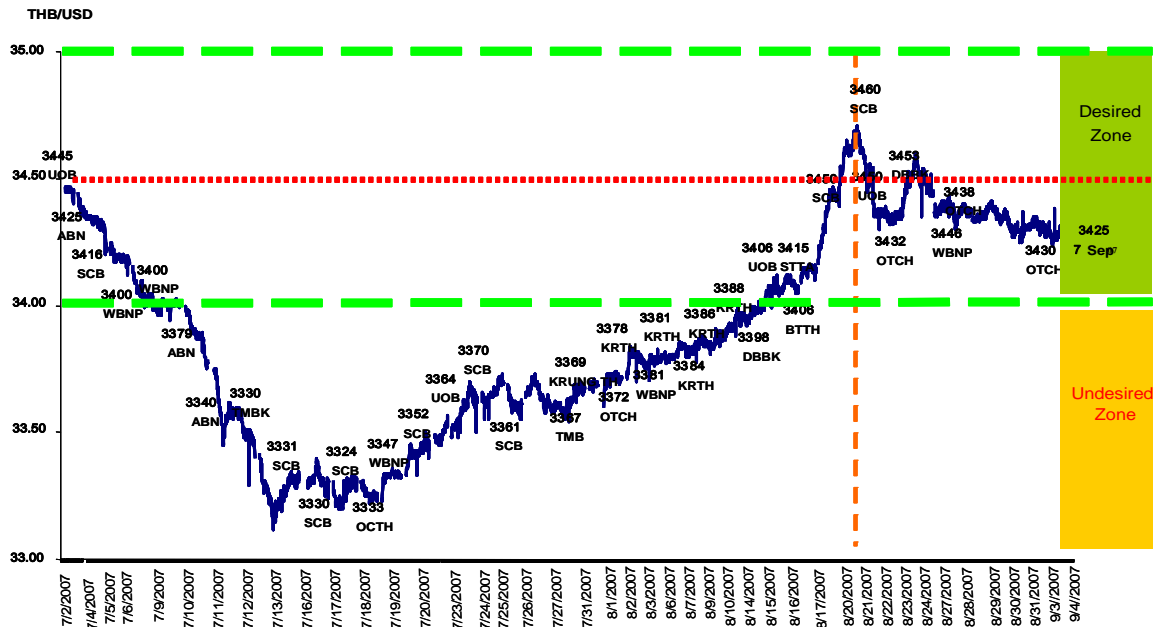
Source: BOT (2007).

Although a slight decrease in the US dollar value against the baht price has occurred since September 2007, it does not mean that the BOT has stopped its intervention. According to the Capital Flows Weekly Focus (19–23 November 2007), foreign capital that entered the spot and forward markets was as high as US\$671 million. This amount could have caused a dramatic appreciation in Thai baht, but there was in fact only a slim change in the exchange rate, which implied government intervention in the foreign currency market. Nevertheless, the locals, especially exporters, continued selling US dollars in the forward market due to the lack of confidence in the US currency, while some buying has been witnessed in the spot market because of foreigners' demand to invest in the stock market.

Looking at the direction of the onshore exchange rate movement, the trend evidences an improvement of the baht value witnessed after the government intervention in July 2007, through lowering of the repurchase rate by 0.25%, the relaxation of foreign exchange regulations on foreign currency deposit, the expansion of foreign investment fund, and the

support on refinancing and foreign loans in baht. Figure 6 shows the change of direction in the onshore foreign exchange rate (THB/USD) of the government regulations.

Figure 6: Movement of the Onshore Baht Exchange Rate in July 2007



Source: FPRI (2007).

However, the offshore exchange rate is another story. Figure 7 shows that the baht has appreciated continually in the offshore market. This reflects the real market situation without government intervention.

Figure 7: Movement of the Offshore Baht Exchange Rate in July 2007



Source: FPRI (2007).

In this connection, a strategic recommendation is called for. With a continual increase in foreign reserves and a sign of growing demand for foreign currency in the spot market, the

BOT should capitalize on this opportunity for foreign reserve management. It could sell foreign currency instead of treasury bonds to absorb the baht from the system. With this strategy, the BOT would not pay to incur interest expenses and would still be able to earn some profit.

Nevertheless, another concern has come into view as the baht appreciates against only the US dollar, while actually depreciating against other major currencies, such as the euro and the Japanese yen. The BOT cannot afford to ignore this important point in attempting to maintain the baht's stability.

3.1.2. Interest Rate

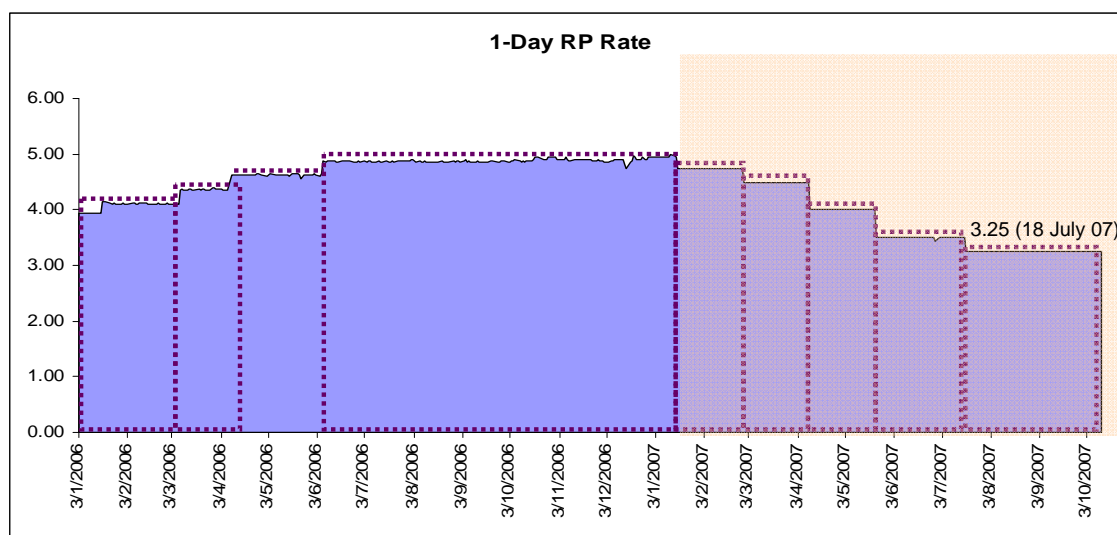
Capital inflows and outflows certainly respond at least in part to changes in the interest rate. Basic economic theory suggests that the interest rate determines the volume of investment, other things being equal. The investment level would expand with a decline in the rate of interest.

The repurchase rate (RP) plays a crucial role in the financial market since it is a part of commercial banks' costs of transaction. The RP rate is basically related to the interbank rate and the commercial banks' deposit and loan interest rates. If the RP rate changes, all these other rates will change, too. Since the beginning of 2007, the RP rate has decreased gradually to 3.25% (See Figure 8).

Generally, currency appreciation comes with an increased interest rate. A cross-border interest rate differential could tend to produce capital inflows. Thailand has experienced continual capital inflows for the past years, which have generated the currency appreciation. In order to stabilize the value of the currency, the BOT may need to lower the interest rate to narrow the differential and stem the capital inflows.

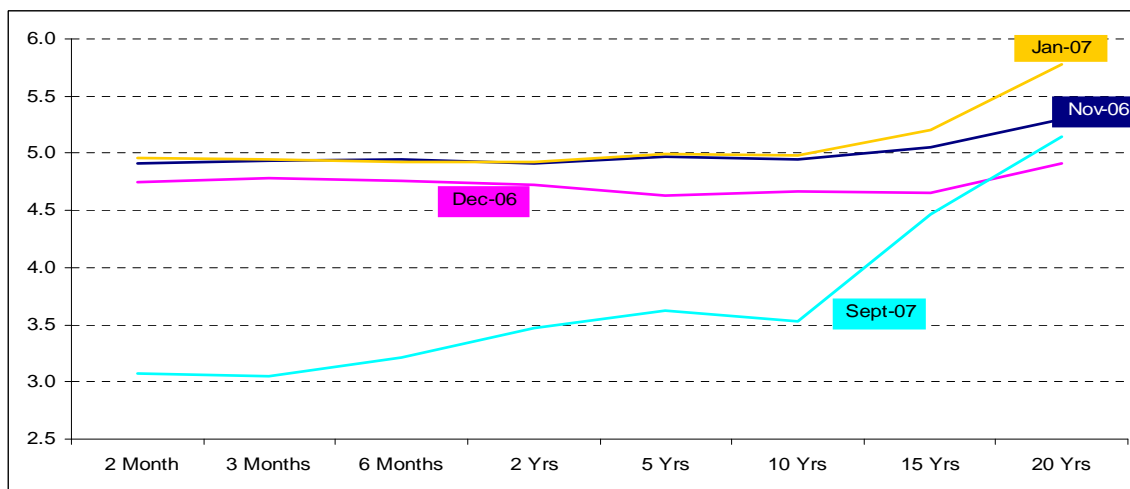
As shown in Figures 8 and 9, the RP rate has decreased since the beginning of 2007 and then it stayed constant. Although the RP rate has become lower, the volume of capital flow has declined only slightly. This indicates that perhaps Thailand still needs more interest rate management to cope with the currency appreciation.

Figure 8: The Policy Repurchase Rate during 2006–2007



Source: www.bot.or.th.

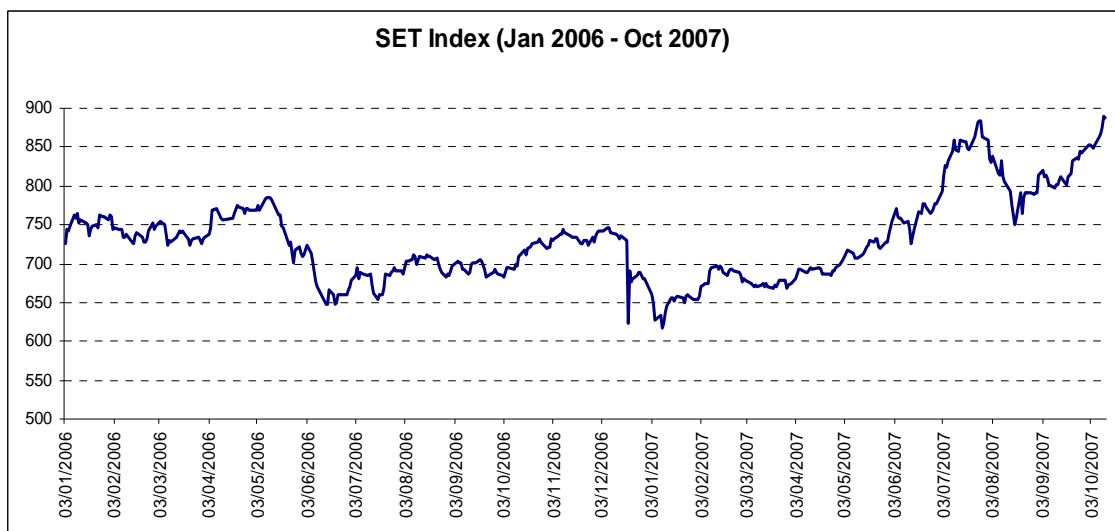
Figure 9: Interest Rate Yield Curve



Source: www.ThaiBMA.or.th.

Until now, a decrease in interest rates has occurred gradually, but baht appreciation still exists. Figure 10 shows the reaction of the securities market after the 30% reserve requirement was announced, and then, reversed later on. Therefore, it is best now to explore other alternative strategies to reduce the pressure on the baht. The ability to identify the channel of capital flows precisely would shed some light on the matter.

Figure 10: Reaction of the Securities Market



Source: CEIC Database.

3.2. Real Sector

Free capital flows, if not properly managed, can ultimately result in macroeconomic instability. Large inflows of capital that manifest themselves in the real estate or stock market can lead to asset price bubbles. Large inflows of capital can also lead to sharp appreciation of the real effective exchange rate and thus weaken the price competitiveness of the export sector.

In this light, the FPRI has constructed a model to assess the impact of a sharp appreciation of the baht on the real sector. Hence we estimate that a 12% appreciation of the baht (January–August 2007) decreases the profit (total capital return) of the real sector by about 6.37%. Upon disaggregating the real sector, we find that the labor intensive sectors (i.e., agriculture, food manufacturing, and textile, etc.) tend to be adversely affected by a change in the exchange rate. On the other hand, “high import content” sectors, such as paper and printing, automobile, and construction, tend to benefit from baht appreciation.

The figures demonstrate that the Thai baht appreciation is a two-sided coin, depending on which party we are considering. It will benefit the group of exporters with a high volume of imports and a low volume of exports, e.g., electricity plants and iron industry, because most of their revenues are received in the form of local currency, while their costs of importing materials are lowered. On the other hand, exporters with high levels of exports and low levels of imports, such as textiles, agriculture, and tourism, will lose their advantages as the Thai baht appreciates. The negative impact from the baht appreciation against this group of exporters is quite obvious. Finally, the public voice has started to get louder and to cry for government to support their competitiveness. The Thai central bank’s intervention in the foreign exchange market initially prevented the baht from appreciating further in July 2007. The six regulations were announced to prevent further baht appreciation, increase local competitiveness and flexibility in foreign exchange management, including balancing foreign currency flows across borders (see also Table 8).

Table 6: Impacts of Capital Flows on the Real Sector

	Key Ratios			Cost
	Wage / VA	CapReturn / VA	Export / Total Revenue	Capital Return
Change in Exchange Rate		-12.00%		
Change in Total Cap Return		-6.37%		
Agri	42.83%	57.17%	7.37%	-0.9%
Mining & Quarrying	17.71%	82.29%	20.00%	-4.7%
Food Manufacturing	43.16%	56.84%	31.26%	-21.1%
Textile Industry	61.66%	38.34%	30.29%	-17.6%
Saw Mills & Wood Products	63.13%	36.87%	48.42%	-21.4%
Paper & Printing	44.07%	55.93%	21.62%	4.3%
Rubber, Chem, and Petroluem	40.81%	59.19%	40.57%	-0.8%
Non-Metallic Product	44.04%	55.96%	41.11%	-23.6%
Metal, Metal Products and Machinery	47.02%	52.98%	55.34%	-14.8%
Automobile	46.08%	53.92%	14.47%	1.7%
Other Manufacturing	58.72%	41.28%	46.92%	-20.2%
Public Utility	29.47%	70.53%	3.02%	-0.4%
Construction	47.06%	52.94%	1.47%	9.7%
Trade	51.25%	48.75%	0.94%	-0.5%
Services	55.59%	44.41%	5.86%	-1.1%
Transport & Commu	36.73%	63.27%	19.55%	-10.6%
Other Services	47.32%	52.68%	62.07%	-28.0%

Source: FPRI (2007).

IV. CURRENT MEASURES AND POLICY IMPLICATIONS

4.1 Thailand’s Capital Controls

Since 1985, Thailand has maintained relatively open current and capital accounts, with liberal treatment of foreign direct and portfolio investments. Exchange controls, however, still apply to the repatriation of interest, dividends and principal of portfolio investment. Foreign

borrowing by Thai residents is allowed but subject to registration at the BOT. Starting in 1985, both current and capital account transactions have significantly been liberalized.

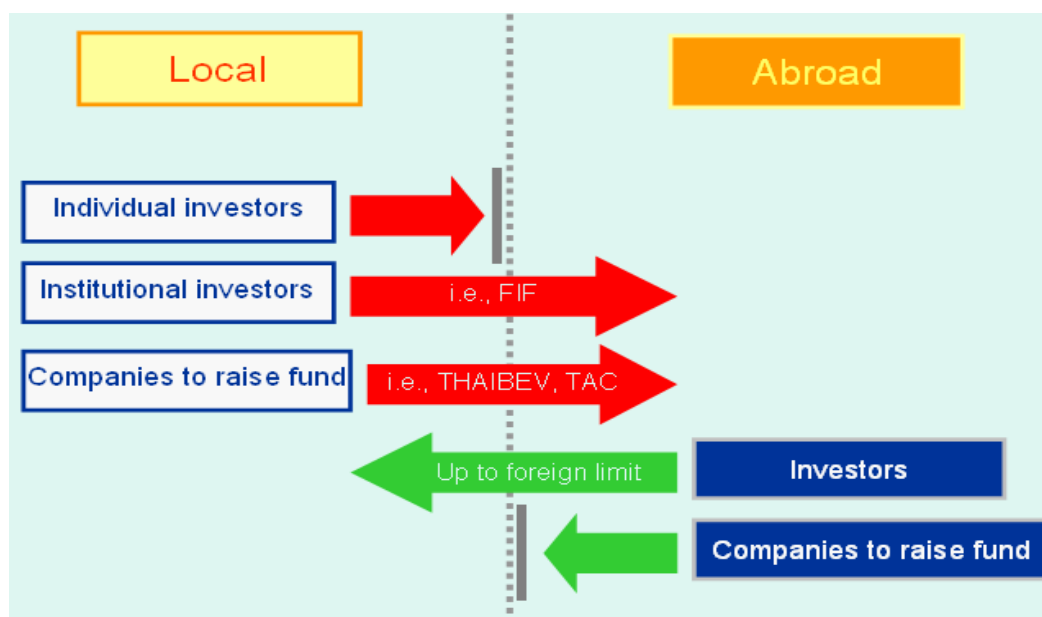
By the end of 1994, Thailand was free of foreign exchange restrictions on current account transactions, and had a very open and favorable regime for foreign investment. Foreign investors were still subject to some restrictions on foreign ownership, in particular with regard to companies listed on the SET, and to severe restrictions on real estate. Thai investment overseas, in particular by financial intermediaries and banks, was also restricted.

The capital controls currently employed in Thailand are the results of the following regulations: Exchange Control Act B.E. 2485, Ministerial Regulation and Notification of the Ministry of Finance, and the Notices of the Competent Officer. Most of the restrictions fall into the category of direct controls. While many are targeted at reducing the destabilizing short-term, debt-creating flows, certain prudential measures are also in place to prevent speculation against the currency.

Most controls on inflows have remained, but controls on Thai residents have been gradually lifted since the second half of 2003. Residents are allowed to invest abroad through mutual funds (the Foreign Investment Fund (FIF) scheme). Thai state enterprises are allowed to hedge freely against foreign currency debts regardless of maturity. Since July 2003, six types of financial institutions have been allowed to invest in sovereign, quasi-sovereign, and investment-grade debt securities. The scope was widened in 2005 to include investment units of foreign unit trusts that are supervised by the members of the International Organization of Securities Commission (IOSCO).

Controls have been divided into three categories: anti-speculative prudential measures on non-residents (NR), prudential measures on residents (R), and special formalities (SF). Figure 11 describes the control of capital movements into and out of Thailand. Anti-speculative measures on non-residents are in place to prevent international investors taking a position against the THB (both appreciation and depreciation, depending on the condition). Generally it entails eliminating the offshore THB. Measures on residents are there to limit risks, such as foreign currency exposure or buildup of foreign short-term liabilities. Special formalities are generally there as a reporting requirement, but the approval nature may make some measures appear like direct controls instead.

Figure 11: On Capital Movements into and out of Thailand



Source: BOT, SEC and SET as of October 2006.

Currently the BOT's framework in dealing with macroeconomic stability involves monitoring seven potential sources of financial imbalances (see Table 7) that, if left unchecked, can threaten macroeconomic stability. If any potential imbalance is identified, the BOT will act (using monetary policy tools along with prudential regulations) to correct the situation.

Because international capital flows increasingly play a greater role in each of the seven areas, traditional macroeconomic policies may not be enough to ensure safety and soundness of the economy. Thailand's last experience with extensive liberalization of the capital account in the early 1990s shows how easily a small open economy without adequate safeguards can fall victim to the massive speculative inflows. Sound macroeconomic fundamentals and a well-regulated financial system are no longer sufficient conditions for financial stability if all funds can freely flow into and out of the country.

Most capital controls employed by Thailand are imposed on non-residents with the intention of reducing speculative attacks. These controls are generally aimed at reducing non-resident holding of the baht (without underlying trade and investment) and eliminating the offshore baht market, which could otherwise provide ammunition for speculators looking to attack the currency. Examples of this type of controls are the limit on holding of non-resident baht accounts to THB 300 million and the THB 50 million rules on short-term lending to and borrowing from non-residents. Other types of controls are imposed on residents to limit foreign currency risk exposure, both on short-term borrowing and investment abroad. However, the BOT has gradually relaxed its restrictions on in-out portfolio investment since 2002 through a series of special schemes, such as the Foreign Investment Fund (FIF) and Qualified Domestic Institutional Investor (QDII) schemes. See Appendix 2 for more details of BOT's controls on capital flows.

Table 7: Seven Sources of Macroeconomic Imbalance

Source	Transmission Mechanism
1. External position	Freer capital flows mean more inflows could come during good times. Yet if short-term capital keeps flowing in, the external position of the country would be weakened and sudden capital outflows may arise leading to volatility in the economy.
2. Non-financial corporation's financial conditions	Greater inflows of capital can lead to a sharp appreciation of REER, diminishing the corporate sector's price competitiveness. Moreover, direct borrowing from the private sector is a possible source of imbalance.
3. Household financial conditions	Inflows of capital, if channeled to household credit, can lead to higher household debt.
4. Credit growth	Inflows of capital might be channeled to lending in certain speculative sectors, such as the real estate and stock markets.
5. Stock market	Inflows that manifest in real estate and stock market can lead to
6. Real estate sector	asset price bubbles.
7. Fiscal position	Unlikely to be directly affected by capital flows (except if the government heavily borrows in foreign currency with short maturity).

Source: BOT (2005).

To summarize the current measures, Table 8 reviews the changes in regulations on capital flows in Thailand from 2005–2007 and historical measures are also presented in Appendix 2.

Table 8: Changes in Regulations on Capital Flows in Thailand (2005–2007)

		2005	2006	2007
Foreign Exchange Regime				
Exchange rate system				
Regulations of Foreign Exchange and Capital Transactions				
Major developments				
- FDI	Inward direct investment	(As of December 31, 2005) Foreign capital may be brought into the country without restriction, but proceeds must be surrendered to authorized financial institutions or deposited in foreign currency accounts with authorized financial institutions in Thailand within 7 days of receipt.		Capital control policy—30% reserve requirement imposed on foreign capital inflows—issued by the Bank of Thailand on 18 December 2006. The policy reversal was made in the case of the equity market, but not in the bond market. Increase flexibility for Thai businesses in managing their foreign currencies

	2005	2006	2007
Outward direct investment	(As of December 31, 2005) Investment exceeding \$10 million (or the equivalent) a year require BOT approval.		
- Portfolio investments			
Inflow	<p>Purchase locally by non-residents. Sales or issue abroad by resident.</p> <p>(As of December 31, 2005) Foreign equity participation is limited to 25% of the total amount of shares sold in locally incorporated banks, finance companies, credit finance companies, and asset management companies. Foreign equity participation is limited to 49% for other Thai corporations. Foreign investors are all allowed to hold more than 49% of the total shares sold in local financial institutions for up to 10 years, after which the amount of shares will be grandfathered, and the non-residents will not be allowed to purchase new shares until the percentage of shares held by them is brought down to 49%. Foreign investors are allowed to hold 100% for other Thai corporations with the approval of the BOT. For sales or issues abroad by residents, approval is required under the regulations governing domestic issuance.</p>		<p>Relax the regulation on foreign portfolio investment by the institutional investors by allowing institutional investors to invest in the form of deposits with financial institutions abroad without seeking approval from the Competent Officer. Nevertheless, the deposited amount shall be counted as part of the total amount allowable for investing abroad according to the foreign exchange regulations.</p>

		2005	2006	2007
Outflow	Sales or issue locally by non-residents Purchase abroad by residents	(As of December 31, 2005) Purchases of shares under employment stock option plans exceeding the equivalent of \$100,000 a year are allowed without BOT approval. Sale or issues locally by nonresidents require the approval of the MOF, BOT, and SEC.		
Others				
General provisions				
		The 50 million baht limit on baht credit from non-residents that was imposed on commercial banks and other financial institutions extended to securities firms.	A limit of 50 million baht applies on the amount that non-residents may lend to domestic financial institutions. This limit applies to loans granted by non-residents without underlying transactions with maturities not exceeding 3 months. The non-resident's head office, branches, representative office, and affiliated companies are counted as one entity.	
Inflow	Financial Institutions			
	Borrowing			
				Foreign investors required to deposit 30% of investment in foreign currency. The deposited account will be returned if investment in question does not flow out of the country for 1 year
		Position limits		

	2005	2006	2007
--	------	------	------

Deposits &
Reserve
requirement

Enterprises

	2005	2006	2007
Outflow		<p>Only authorized banks are allowed to grant financial credits to non-residents, subject to the rule of net foreign exchange position. Without approval from the BOT, residents may grant loans of only up to \$10 million (or equivalent) a year to their affiliated companies, provided they own at least 10% of total shares in the company.</p> <p>Direct loans in Thai baht were allowed to be made to entities in neighboring countries (i.e. Cambodia, southern parts of the People's Republic of China, Lao PDR, Myanmar, and Viet Nam) under specified conditions and with prior BOT approval.</p>	<p>Allow companies registered in the Stock Exchange of Thailand, most of which are high-performance businesses and subject to supervision by government agencies, to purchase foreign currencies to invest abroad in an amount up to US\$100 million per year.</p>
Other regulations	<p>Reporting requirement on all fund transfer by non-residents imposed on financial institutions.</p>	<p>Financial institutions are allowed to extend direct loans in baht with collateral to nonresident natural persons permitted to work in Thailand for not less than 1 year</p>	<p>In 24 July 2007, provide Thai residents, both juristic persons and individuals, with greater flexibility in depositing foreign currencies with financial institutions in Thailand.</p> <p>Adjust the limit of fund remittances by Thai residents.</p>

Source: Reference materials for "Capital account liberalization and international capital flows" conference, Tokyo and BOT (2007).

4.2 Assessment of Policies and Measures adopted by the Monetary Authorities of Thailand to Manage Capital Flows after the 1997 Crisis

4.2.1. Further Liberalizations—Allowing More Outflows by Residents

Inflows from non-residents inevitably mean foreign currency liabilities for Thailand. Allowing residents to invest more in foreign securities and assets can reduce the risk concentration and diversify Thailand's holdings of assets. Specifically, the BOT and various regulators allow more in-out investments after the crisis, such as increasing the scope of securities eligible under the QDII scheme or increasing the quota for the FIF scheme. This is a very important step to give local financial institutions the opportunity to familiarize themselves with international markets. Simultaneously, continuous reforms to enhance the attractiveness of domestic capital markets should be undertaken to mitigate potential problem of widening S-I gap.

Because of increasing globalization, more and more Thai businesses may seek to engage in FDI in other countries. This creates business opportunities for Thai financial institutions. Financing FDI of local companies would help Thai financial institutions improve their competitiveness internationally.

4.2.2. Strengthening of Prudential Regulations

Prudential measures to manage capital flows are not substitutes for fundamental economic reforms and maintenance of consistent macroeconomic policies. Experiences of Latin American and East Asian countries show how imbalances can be created by maintaining inconsistent internal and external policy goals. The herding behavior in international finance can lead to self-fulfilling prophecies and to sudden and costly adjustments of these imbalances. For this reason, it is important that the authorities maintain macroeconomic prudence with political independence and credibility.

The key internal reforms to strengthening prudential regulations include the partial deposit insurance scheme through the Deposit Insurance Agency, the formalization of consolidated supervision through the Financial Institution Business Act, and the introduction of Basel II. Partial deposit insurance to replace full government guarantee is expected to be implemented in 2008. The third draft of the FIBA has been submitted to the MOF and is pending approval by the relevant parties (see Box 1 for the key features of FIBA). By the end of 2008, banks are to begin new basic Basel II capital charges (i.e., Standardized Approach and Foundation Internal Rating-Based) and by the end of 2009, to begin advanced Basel II capital charges (i.e., Advanced Internal Rating-Based and Advanced Measurement Approaches).

Box 1: Key Differences between the (Pending) Financial Institution Business Act and the Commercial Banking Act (1962)

1. Combines the Commercial Banking Act with the Finance Companies and Credit Foncier Act in line with the Financial Sector Master Plan. This and the "one presence" policy should make supervision easier.
2. Gives the BOT the legal right to supervise in a consolidated manner. Currently the BOT regulates beyond the scope of the Commercial Bank Act through Revolutionary Decree No. 58 and by moral suasions.
3. Specifies the process for resolving troubled banks thus enabling prompt-corrective action: e.g., the critical point that the BOT should step in and available resolution options.
4. Rules on corporate governance.
5. Increases the scope of supervision to include non-bank financial institutions that engage in consumer finance.

Source: BOT.

4.2.3. Strengthening of Management of Foreign Exchange?

Ever since the 1997–98 episode, Thailand has been more cautious about capital flows and the BOT has maintained various measures aimed at preventing speculative attacks on the currency and limit short-term foreign currency debt exposure. Measures were imposed on outflows, partly to keep savings in Thailand and partly to reduce risk exposure, although they have been gradually lifted since 2002. Against the backdrop of a falling short-term foreign debt, the foreign exchange reserves in Thailand have been consistently rising because of the fear of runs on reserves. The size of reserves now is more than three times the size of short-term debt obligation, and can cover all of Thailand's total external debt.

It is clear that while inflows of foreign capital are useful, the types of flows that enter into the country also matter. Rebounding from the crisis, Thailand is beginning to attract foreign capital inflows once more; capital flows in East Asia are becoming more volatile as international investors (especially hedge funds) are chasing higher returns. Policy mismanagement can hurt the financial system and real sector.

Bearing these issues in mind, we propose that policymakers must decide how they want to finance investment needs, and how much foreign capital will be required, and what type of capital. External financing may put further pressure on the current account, but is simpler to do. However, unregulated capital inflows leave the economy vulnerable to the double mismatch problem and financial volatility. It would be best for Thailand to proceed with care with regard to incoming foreign capital and select only the less risky, such as longer maturity loans or direct investments, and screen out the types of flows that can potentially destabilize the economy. Parallel to this, Thailand should look ahead and develop its financial markets so as to be able to absorb shocks, start to build familiarity with outward investment, and diversify its holding of assets into other markets to reduce risk concentration.

4.2.4. De-internationalization of the Local Currency—Reducing Short-term Inflows of Non-residents

Because short-term inflows, especially “hot money,” come with a great risk of destabilizing the economy, they should be discouraged. Both public and private short-term borrowing should be restrained. We believe that measures to monitor and limit financial institutions' risk exposure should be maintained and additional tools to hedge the foreign currency risk, such as swaps or loan underwriting, should be developed and used by the financial institutions. For example, non-financial institutions and the government should focus on issuing bonds with higher maturities or denominated in the THB. Moreover, the BOT should maintain measures to limit the internationalization of the THB and arbitrage activities to prevent currency speculations.

To complement these measures, we believe that the MOF, in addition to the BOT, will have to also keep a watchful eye on short-term capital flows in order to prevent unnecessary buildup of imbalances in all relevant sectors and so that corrective policies can be issued promptly. Parallel to this, the scope and scale of inflows allowed should be matched to the state of Thailand's economic conditions and the level of financial markets development.

V. POLICY CHALLENGES—WHAT LIES AHEAD?

5.1 Policy Recommendations for Preventing Another Capital Account Crisis

The Asian Policy Forum, a forum of 17 policy-oriented research institutes from 14 Asian countries, issued a report on “Policy Recommendations for Preventing Another Capital Account Crisis” in July 2000. The recommendations and their progress are as follows.

During the past 10 years, it seems that some progress has been made in line with the suggestions, especially measures that can be implemented unilaterally and domestically, e.g., exchange rate regimes, strengthening prudential regulations, capital market development, and restricted holdings of domestic currency by non-residents.

On the regional front, the Chiang Mai Initiatives (CMI) with self-help and support mechanisms through the Bilateral Swap Arrangement (BSA) added to the scale of existing regional financing facilities such as the ASEAN Swap Arrangement (ASA). Over the past few years, mechanisms to strengthen surveillance have been set up in six member countries in the form of country units for an Early Warning System (EWS).¹ The creation of the Office of Regional Economic Integration (OREI)² by ADB and the ASEAN Surveillance Coordination Unit (ASCU) in the ASEAN Secretariat were among the right moves.

¹ The six member countries include Cambodia, Indonesia, Lao PDR, the Philippines, Thailand and Viet Nam.

² The OREI, established on 1 April 2005, is the successor of Regional Economic Monitoring Unit (REMU), which was established in 1999, in response to the 1997/98 Asian financial crisis and at the request of ASEAN finance ministers.

Table 9: Summary of the “Policy Recommendations for Preventing Another Capital Account Crisis”

Crisis Prevention	Current Progress
<p><i>Dealing with Massive Capital Flows</i></p> <ol style="list-style-type: none"> 1. Adopting an appropriate exchange rate regimes 2. Establishing controls on capital inflows 	<p><i>Dealing with Massive Capital Flows</i></p> <ol style="list-style-type: none"> 1. PRC and Malaysia adopted a managed float system. Only Hong Kong, China maintains a currency board. 2. Controlling capital inflows is believed to be unproductive considering the nature of the sources (mainly long-term capital) and the sizes of the capital inflows (not being high enough to generate instability).
<p><i>Minimizing Double Mismatch</i></p> <ol style="list-style-type: none"> 3. Strengthening prudential supervision and regulation 4. Developing the domestic capital markets 	<p><i>Minimizing Double Mismatch</i></p> <ol style="list-style-type: none"> 3. Prudential supervision and regulation have been much improved after the crisis. The regional centers like Singapore and Hong Kong lead the pact in good governance practices. 4. The domestic capital markets, both equity and bond, have been much improved, and the better balance of bank-based and capital market-based systems can be observed in most of Asian countries.
<p><i>Managing Sudden Reversals of Capital Flows</i></p> <ol style="list-style-type: none"> 5. Bailing-in in the private sector 6. <i>Restricting holdings of domestic currencies by non-residents</i> 	<p><i>Managing Sudden Reversals of Capital Flows</i></p> <ol style="list-style-type: none"> 5. The IMF had once discussed bail-in measures, but with no subsequent progress. No progress in practice. 6. <i>Most of the countries understand the implication of holdings of domestic currencies by non-residents and currency speculation. Close monitoring and tight restriction by allowing only transfers with underlying real transactions was generally practiced.</i>
<p><i>Establishing Regional Financial Arrangement</i></p> <ol style="list-style-type: none"> 7. Establishing regional financial arrangement 	<p><i>Establishing Regional Financial Arrangement</i></p> <ol style="list-style-type: none"> 7. The ASEAN Swap Arrangement (ASA) was improved and the Bilateral Swap Arrangement (BSA) was established and later increased in size. However, due to weak technical and political supports, peer review, surveillance criteria, and removal of the conditionalities tied to the swap arrangement scheme have not shown much progress.

Source: FPRI (2007).

5.2 Future Regional Co-operation

Current international finance is much more complex in dimension as well as in size of the impacts compared to the situation in Asia during the crisis of 1997. There are at least three factors contributing to the complexity.

First, there is the increase in the degree of global imbalance. The chronic current account deficits of the US, which reached 7% of the GDP, and the more than \$US2 trillion foreign reserves accumulated by East Asian nations pose a challenge to Asian policymakers. The political maneuvers outstage the economic understanding and measures that would bring mutual benefits among regions. The US authorities' consistent complaints about a strong yuan as well as the actual weakening of the yen while the other Asian currencies appreciated (*vis-à-vis* the USD) by 9% in 2006, gave an impression that Asia does not have a collective policy stance to deal with the current threat.

Second, after the strong recovery, Asia has become one of the global economic centers. The US, Europe, and Asia have been generalized as the three financial pillars of the global financial market. Since countries in East Asia have become closely linked to one another through trade and investment, the definition of Asian financial center has come to cover at least Tokyo; Hong Kong, China; and Singapore. Asia is no longer to be solely impacted by policies issued in the US and Europe, but Asia's policies also impact other regions as well. Collective efforts as a global player, to stabilize the global economy, are new to Asia and remain a new challenge for policymakers and policy researchers.

Third, Asian countries should understand that their stage of development is moving quickly as time goes by. Many of the economies in East Asia (Singapore; Hong Kong, China; and Republic of Korea, for example) have matured and are at the verge of becoming developed nations. Many others are up to (or close to) the full emerging economy status (Malaysia, Thailand, Indonesia, and the Philippines, for example). Understanding the real platform would lead a country to formulate new sets of the right policies—relinquishing uncompetitive activities and promoting new competitive sectors—and minimizing impacts on those affected by the new policies.

As Asia is maintaining competitive strength as a global production base, the current account surplus can be sustained in the years to come. It will naturally lead to capital inflows via the current account surplus. The pressure on currency value will also come from surplus of the financial account as the high rate of return in Asia entices global FDI and portfolio investment flows. The situation generates a one-side-bet on Asian currencies' appreciation *vis-à-vis* the USD, and the pressure will mount in the years to come. Failure to manage currency parity among Asian currencies, and Asian currencies *vis-à-vis* major currencies (USD and EUR), would mean economic tabulation of a highly contagious nature in the region. It is worth mentioning that there are some policy issues meriting consideration.

5.2.1. Enhance Regional Financial Architectures

The root of the 1997 crisis was the excessive dependence on short-term foreign currency lending and insufficient monitoring mechanism. The imbalance became a widespread crisis because there was a liquidity shortage, and countries succumbed to the force of international capital outflows. To combat the short-term liquidity shortage problem, countries in ASEAN and East Asia or ASEAN+3 agreed on bilateral swap arrangements. However, the rescue package so far falls short of ideal. In particular, the size of capital pledged remains small, the distribution mechanism is slow, and IMF conditionalities remain. Currently, East Asian countries collectively hold nearly USD2 trillion in reserve assets. Thus it is the lack of political will rather than shortage of funds that has slowed down the cooperation.

The ASEAN+3 group has also initiated talks on regional exchange rate coordination but thus far there has been little real progress. Greater regional exchange rate coordination should help create more stable exchange rate across ASEAN, East Asia, and their major trading partners from outside.

In addition, the ASEAN+3 group has launched the regional bond market initiative (Asian Bond Market Initiative) to provide a new channel for savings in East Asia. Asian bonds

should be useful in helping to raise funds for productive investments in East Asia, which would be advantageous for Thailand as a current account deficit country in the foreseeable future.

5.2.2. Exchange Rate Arrangement

The strong investment–production–trade ties in Asia can be disrupted by currency fluctuation. With strong investment–production–trade ties, it is by nature that direct exchange—price quotation and currency unit—in local currency should be promoted as an insulator to reduce currency risk from the current triangular currency exchange. Some form of Asian currency arrangement might be a good step towards an Asian Currency Unit (ACU) in the future.

5.2.3. Interest Rate Policy and Investment Alternatives in the Region

As a high growth region, Asia faces a difficult situation in the sense that Asia has to receive more capital inflows from other regions (to enjoy Asia's high rate of return) while it can hardly find a higher rate of return outside the region. It turns out that Asia either ends up with net capital inflows and currency appreciation, or stabilizing exchange rate by reinvesting foreign capital outside the region with a lower rate of return. There are two ways to maintain stability in this particular situation.

First is to lower the regional interest rate to the point that the real return from capital inflows (real interest rate and gain from currency appreciation) is no longer attractive. This policy was implemented by some individual countries. As a result, their interest rate has no longer moved to the Fed fund rate.

Second, after discouraging short-term flows via low interest rate, Asia might consider transforming capital surplus into physical and social investment necessary for future sustainable growth. The investment, on the one hand, means increasing imports and reducing current account surplus. On the other hand, new infrastructure project means generating demand for investment funds of high rate of return.

5.2.4 Asian Bond Market Development

Initiatives for an Asia bond aim at facilitating regional investment with a long-term financial instrument. The holding of long-term bonds denominated in local currency means a local firm (or country) faces much lower currency and maturity risks, the double mismatch that caused the crisis in 1997. Redeeming bonds when lacking confidence, like in the midst of the crisis, would lead to severe penalty by the market system. Compared with the redemption of bank loans, which clearly specifies obligations of borrowers in terms of payments (currency, principle, interest and penalty), the bond has the secondary market to insulate issuers from massive redemption before maturity.

According to the *“Investing in Asian Bonds Conference 2007,”* the role that the Asian bond plays is increasingly emphasized in the world financial market. Two specific reasons are indicated to support the utilization of Asian bonds. First, the growth rate in Asian assets has increased sufficiently to reach 21% compared to the overall rate of world growth which is only 15%. Second, the Asian bond market has expanded at a rate double the expansion of the banking system.

Complex transaction and multiple currencies trade and investment in the region indicate a necessity of multicurrency Asian bonds to be an instrument in hedging currency risks. Since the world economy has appeared to experience global imbalance, Asian bonds then became another option to help manage foreign currency. For example, the US balance of payments deficit coupled with capital inflows distributed some investment volumes to Asian market. Also, an increase in oil prices caused a rise in the level of foreign reserves of the OPEC

members and Middle East countries. In addition, developed countries, e.g., the USA, the United Kingdom, and Germany, experienced flattened or negative yield curves. Thus, investors have circulated their savings back to the Asian market.

With a high rate of economic growth, the Asian market has become an attractive place for financial investment in the last years. It contains a constant current account surplus, low amount of foreign loans, and a strong foreign exchange rate. Consequently, the credit rating or sovereign rating has improved. Foreign confidence has been growing progressively toward the Asian economy as foreigners believe in Asia's superior ability to deal with financial difficulties, such as the subprime housing bubble, relative to countries in Latin America and the Middle East.

Moreover, if Asia is to move to establish some form of Asian currency cooperation, it is inevitable that the Asian bond market be utilized to stabilize the new exchange rate regime. At the same time, the Asian bond market has grown persistently and given a higher return compared to other markets, with the addition of diversification power. All of these factors combined with strong values of Asian currencies support the Asian bond as an effective alternative of securities investment.

5.3 Possible Massive Flows of Capital—Appropriate Policy Responses for Thailand

5.3.1. Monetary Policy to Stabilize Long-term Inflation: What is the Appropriate Intermediate Instrument?

Thailand's monetary policy is conducted in pursuit of stability of the price level and stability of the exchange rate. Currently, the one-day repurchase rate serves as an operating target, and the BOT assigns a preeminent position to a core measure of inflation. However, exchange rate stability can conflict with the goal to stabilize inflation. McCauley (2001 and 2006) suggests that assigning the monetary authority to achieving price stability and managing the exchange rate is harder to sustain as the economy under consideration is more open. The more open an economy, the greater will be the effect of the exchange rate relative to the interest rate in setting monetary conditions (i.e., large effective exchange rate changes have the capacity to lead to an undesirable inflation). Moreover, international experience of inflation targeting by emerging economies as a matter of fact shows a significant association between large effective exchange rate changes, on the one hand, and missed inflation targets on the other (Ho and McCauley, 2003).

In this light, maybe this is the time to question the extension of the link of exchange rate targeting to effectively stabilize the long-term inflation. Given the openness of the Thai economy, interest rates move in accordance with the international rates. Therefore, the interest rate is not a suitable inflation target. The inflation in Thailand has effectively been mainly imported inflation, so the *“exchange rate as intermediate target”* should be a better instrument to stabilize inflation.

5.3.2. Capital Outflows Management

The rise in the level of Thailand's international reserve implies an excess of capital inflows over outflows. With excessive amount of capital inflows, the Thai baht has continually appreciated. Consequently, this situation has led to a negative impact on Thai exporters. As a result, exchange rate intervention has been exercised by the Bank of Thailand. The BOT has spent over US\$600 million by the end of 2007 for exchange rate intervention. Nevertheless, a challenge of international capital investment has come into view as another option of financial management. According to evidence from Singapore and Malaysia, capital flow management—by balancing the inflows and the outflows—helps stabilize their local currencies. This indicates the fact that these countries have relocated their capital outflows in response to changes in the massive capital inflows. Since the exchange rate is an

intermediate local and international transaction, it is necessary to maintain the level of confidence in the local currency.

In the case of Thailand, several channels of capital outflows are suggested as tools for capital outflow management—imports for investment, outward foreign direct investment, domestic business credit, and international portfolio management. The BOT states clearly its objectives of intervention. The recent introduction of capital measures is mostly for balancing the capital flows and providing opportunity of investment for the residents. The aspects also include risk management and transaction-cost reduction. However, relaxation of some restrictions on capital outflows would facilitate international investment including international portfolio investment for Thai investors. At the same time, it leads to greater opportunity and access to other possible markets for investment. The coordination of fiscal and monetary policies additionally contributes to the effectiveness of capital outflow management. Monetary policy should be conducted to stabilize long-term inflation through intermediate instruments, i.e., exchange rate. All together, efficient capital outflow management poses another challenge in economic and financial stabilization.

APPENDIX 1

Balance of Payments											
Millions of USD											
Line		1997	1998	1999	2000	2001	2002	2003	2004	2005	2006p
1	Current account	-3,110	14,291	12,466	9,328	5,114	4,685	4,784	2,767	-7,918	2,174
2	a. Goods and services	-130	17,470	15,086	10,116	6,969	7,746	8,821	6,754	-3,735	5,658
3	1. Goods	-4,624	12,235	9,272	5,466	2,494	2,739	3,759	1,460	-8,530	994
4	Exports (f.o.b.)	56,725	52,878	56,801	67,889	63,070	66,092	78,105	94,941	109,193	127,941
5	Imports (c.i.f.)	-61,349	-40,643	-47,529	-62,423	-60,576	-63,353	-74,346	-93,481	-117,722	-126,947
6	Of which: Non-monetary gold	-400	-400	-350	-588	-830	-767	-699	-1,146	-1,970	-1,877
7	2. Services	4,494	5,235	5,814	4,650	4,475	5,007	5,062	5,294	4,794	4,664
8	Services receipts	15,779	13,214	14,653	13,869	13,024	15,391	15,801	19,050	20,165	24,140
9	(1) Transportation	2,413	2,674	3,015	3,244	3,059	3,264	3,505	4,349	4,626	5,379
10	1.1 Freight	626	469	512	605	610	678	805	1,092	1,200	1,383
11	1.2 Passenger	1,394	2,082	2,387	2,447	2,306	2,491	2,601	3,010	2,527	3,223
12	1.3 Others	393	123	116	192	143	95	99	247	900	773
13	(2) Travel	7,677	6,202	7,040	7,489	7,077	7,902	7,855	10,057	9,576	12,441
14	(3) Government service, n.i.e.	145	81	94	83	92	87	104	108	152	186
15	(4) Other services	5,544	4,257	4,504	3,053	2,796	4,138	4,337	4,536	5,810	6,133
16	4.1 Communication services	187	160	144	132	109	134	149	202	258	244
17	4.2 Construction services	34	95	236	230	295	263	188	235	255	336
18	4.3 Royalties and license fees	39	8	21	9	9	8	7	15	17	46
19	4.4 Insurance services 1/	67	51	59	81	87	106	134	138	279	253
20	4.5 Others	5,217	3,943	4,044	2,601	2,296	3,627	3,859	3,946	5,001	5,254
21	Services payments	-11,285	-7,979	-8,839	-9,219	-8,549	-10,384	-10,739	-13,756	-15,371	-19,476
22	(1) Transportation	-1,426	-955	-1,028	-1,141	-1,376	-1,419	-1,792	-2,441	-3,965	-4,583
23	1.1 Freight	-877	-509	-469	-478	-698	-506	-806	-1,146	-1,860	-1,881
24	1.2 Passenger	-340	-288	-398	-446	-412	-583	-618	-824	-1,117	-1,509
25	1.3 Others	-209	-158	-161	-217	-266	-330	-368	-471	-989	-1,194

Balance of Payments											
Millions of USD											
Line		1997	1998	1999	2000	2001	2002	2003	2004	2005	2006p
26	(2) Travel	-3,425	-1,970	-2,476	-2,775	-2,923	-3,303	-2,921	-4,516	-3,803	-4,634
27	(3) Government service, n.i.e.	-214	-126	-118	-131	-135	-148	-171	-168	-146	-175
28	(4) Other services	-6,220	-4,928	-5,217	-5,172	-4,115	-5,514	-5,855	-6,631	-7,456	-10,085
29	4.1 Communication services	-101	-55	-29	-39	-146	-84	-179	-143	-214	-159
30	4.2 Construction services	-207	-124	-83	-105	-111	-69	-152	-229	-314	-581
31	4.3 Royalties and license fees	-634	-518	-584	-709	-822	-1,071	-1,269	-1,584	-1,676	-2,047
32	4.4 Insurance services 1/	-229	-188	-182	-177	-198	-328	-382	-356	-478	-484
33	4.5 Others 2/	-5,049	-4,043	-4,339	-4,142	-2,838	-3,962	-3,873	-4,319	-4,774	-6,814
34	b. Income	-3,455	-3,594	-2,973	-1,373	-2,454	-3,664	-4,978	-6,121	-7,186	-6,853
35	Income receipts	3,749	3,333	3,096	4,234	3,919	3,419	3,152	3,247	3,640	4,661
36	(1) Compensation of employees	1,665	1,425	1,463	1,696	1,253	1,380	1,608	1,623	1,187	1,333
37	(2) Investment income	2,084	1,908	1,633	2,538	2,666	2,039	1,544	1,624	2,453	3,327
38	Of which: Reinvested earnings 3/	0	0	0	0	84	65	135	125	249	163
39	Income payments 4/	-7,204	-6,927	-6,069	-5,607	-6,373	-7,083	-8,130	-9,368	-10,825	-11,514
40	(1) Income on equity	-1,628	-1,436	-1,545	-1,516	-3,004	-4,692	-6,260	-7,676	-9,306	-9,461
41	Of which: Reinvested earnings 3/	0	0	0	0	-1,175	-2,388	-3,316	-4,223	-4,501	-4,165
42	(2) Income on debt	-5,576	-5,491	-4,524	-4,091	-3,369	-2,391	-1,870	-1,692	-1,519	-2,053
43	c. Current transfers	475	415	353	585	599	603	941	2,134	3,003	3,369
44	General government	17	30	43	76	103	47	109	87	125	176
45	Other sectors 5/	458	385	310	509	496	556	832	2,047	2,878	3,194
46	Capital and financial account	-4,343	-9,742	-7,908	-10,261	-3,474	-1,845	-4,759	3,628	11,085	5,719
47	a. Capital account 6/	0	0	0	0	0	0	0	0	0	0
48	b. Financial account	-4,343	-9,742	-7,908	-10,261	-3,474	-1,845	-4,759	3,628	11,085	5,719
49	1. Direct investment 3/	3,298	7,360	5,742	3,371	4,631	3,164	4,614	5,786	7,545	7,978
50	(1) Abroad	-584	-132	-349	22	-430	-171	-621	-76	-503	-1,032
51	(2) In reporting economy	3,882	7,492	6,091	3,349	5,061	3,335	5,235	5,862	8,048	9,010
52	2. Portfolio investment	4,558	331	-106	-712	-881	-1,606	-73	3,071	5,510	3,638
53	(1) Assets	-74	12	0	-152	-361	-903	-942	1,199	-1,529	-2,029

Balance of Payments											
Millions of USD											
Line		1997	1998	1999	2000	2001	2002	2003	2004	2005	2006p
54	(2) Liabilities	4,632	319	-106	-560	-520	-703	869	1,872	7,040	5,666
55	2.1 Equity securities	3,987	265	946	897	351	544	1,789	1,331	5,100	5,204
56	Inflow	21,376	6,761	5,114	4,766	1,832	1,807	7,727	7,064	74,863	90,427
57	Outflow	-17,389	-6,496	-4,168	-3,869	-1,481	-1,263	-5,938	-5,733	-69,763	-85,224
58	2.2 Debt securities	645	54	-1,052	-1,457	-871	-1,247	-920	541	1,940	462
59	2.2.1 Monetary authorities 7/	0	0	0	0	0	0	0	0	225	416
60	Inflow	0	0	0	0	0	0	0	0	538	1,189
61	Outflow	0	0	0	0	0	0	0	0	-313	-773
62	2.2.2 Government	318	-217	-463	-350	-45	-152	3	213	260	-115
63	Inflow	600	1	5	895	1,450	3,053	3,933	2,413	3,378	2,684
64	Outflow	-282	-218	-468	-1,245	-1,495	-3,205	-3,930	-2,200	-3,118	-2,799
65	2.2.3 Bank	-135	-85	106	-86	0	238	-60	15	0	50
66	Inflow	0	2	115	0	0	256	0	15	0	50
67	Outflow	-135	-87	-9	-86	0	-18	-60	0	0	0
68	2.2.4 Other sectors 5/	462	356	-695	-1,021	-826	-1,333	-863	313	1,455	112
69	Inflow	3,594	690	384	282	916	1,098	282	1,511	3,211	2,275
70	Outflow	-3,132	-334	-1,079	-1,303	-1,742	-2,431	-1,145	-1,198	-1,756	-2,163
71	3. Other investment	-12,199	-17,433	-13,544	-12,920	-7,224	-3,403	-9,300	-5,229	-1,970	-5,897
72	(1) Assets	-2,298	-3,275	-1,799	-2,211	273	2,829	-65	-1,698	-1,307	-10,260
73	1.1 Government	490	-56	-150	-123	-32	-5	-3	168	-29	-21
74	1.2 Bank 8/	-2,661	-3,326	-1,684	-2,169	746	4,239	-428	-399	-1,282	-9,020
75	1.3 Other sectors 5/	-127	107	35	81	-441	-1,405	366	-1,467	3	-1,219
76	(2) Liabilities	-9,901	-14,158	-11,745	-10,709	-7,497	-6,232	-9,235	-3,531	-663	4,363
77	2.1 Trade credits	-408	-435	592	-847	-513	231	183	447	3,443	632
78	2.1.1 Government	0	0	0	0	0	0	0	0	0	0
79	Disbursement	0	0	0	0	0	0	0	0	0	0
80	Repayment	0	0	0	0	0	0	0	0	0	0
81	2.1.2 Other sectors 5/	-408	-435	592	-847	-513	231	183	447	3,443	632

Balance of Payments											
Millions of USD											
Line		1997	1998	1999	2000	2001	2002	2003	2004	2005	2006p
82	Disbursement	13,231	9,956	11,237	13,905	15,125	17,453	18,008	23,200	31,042	37,229
83	Repayment	-13,639	-10,391	-10,645	-14,752	-15,638	-17,222	-17,825	-22,753	-27,598	-36,597
84	2.2 Loans	2,112	-9,545	-11,928	-9,232	-8,134	-10,300	-10,488	-2,269	-3,326	2,451
85	2.2.1 Monetary authorities	7,291	3,465	1,280	-193	-3,124	-3,834	-4,909	0	0	0
86	2.2.2 Government	930	851	1,959	611	395	-1,321	-607	-1,885	-1,179	-430
87	Disbursement	1,084	1,145	2,137	974	651	281	194	148	135	98
88	Repayment	-154	-294	-178	-363	-256	-1,602	-801	-2,033	-1,314	-529
89	2.2.3 Bank 9/	-2,517	-11,096	-11,207	-4,835	-2,235	-1,680	-1,663	-496	-1,145	-249
90	Disbursement	3,666	285	50,407	27,096	58,414	29,480	29,805	35,701	35,561	41,210
91	Repayment	-6,183	-11,381	-61,614	-31,931	-60,649	-31,160	-31,468	-36,197	-36,706	-41,458
92	2.2.4 Other sectors 5/	-3,592	-2,765	-3,960	-4,815	-3,170	-3,465	-3,309	112	-1,002	3,130
93	Disbursement	18,697	11,715	8,529	6,315	5,821	6,656	7,383	6,614	13,847	17,107
94	Repayment	-22,289	-14,480	-12,489	-11,130	-8,991	-10,121	-10,692	-6,502	-14,849	-13,978
95	2.3 Currency and deposits	-11,327	-3,825	-162	-364	1,758	4,149	1,197	-1,507	57	161
96	Of which: Monetary authorities 10/	-5,561	471	2,740	43	2,735	7,866	7,578	3,065	0	0
97	2.4 Other liabilities	-278	-353	-247	-266	-608	-312	-127	-202	-837	1,119
98	2.4.1 Government	0	0	0	0	0	0	0	0	-4	0
99	2.4.2 Bank	-524	-576	-363	22	-273	-84	53	-90	-793	903
100	2.4.3 Other sectors 5/	246	223	116	-288	-335	-228	-180	-112	-41	215
101	Errors and omissions	-3,196	-2,815	26	-684	-323	1,394	118	-660	2,255	4,849
102	Overall balance	-10,649	1,734	4,584	-1,617	1,317	4,234	143	5,735	5,422	12,742
103	Reserve assets	10,649	-1,734	-4,584	1,617	-1,317	-4,234	-143	-5,735	-5,422	-12,742
104	a. Reserve position in the fund	455	0	0	0	0	0	-108	-47	-37	54
105	b. Foreign exchange	10,625	-1,842	-4,707	1,423	-1,354	-4,228	-15	-5,644	-5,386	-12,804
106	c. Monetary gold	0	0	0	31	-31	-7	-24	-43	0	9
107	d. SDRs	-431	108	123	163	68	1	4	-1	0	-1

1/ Including insurance on goods.

2/ Including compensation of employees.

3/ Reinvested earnings have been recorded as part of direct investment in the financial account, and its contra entry recorded as "investment income" in the current account.

The series has been revised back to 2001.

4/ Investment income only.

5/ Including private enterprises and state enterprises.

6/ Comprises debt forgiveness, migrants' transfers, acquisition/disposal of non-produced, nonfinancial assets, etc.

These items were previously, up to 1992, included in services and current transfers.

7/ Include investment in BOT bonds by non-residents.

8/ Prior to 1997, the item included currency and deposits and other assets.

9/ Prior to 1997, the item included currency and deposits and other liabilities.

10/ Starting January 2005, there has been a change in data source and Bank of Thailand's FX transactions have been reclassified to be included under the banking sector, in accordance with balance of payments compilation guidelines set forth by the IMF.

Source: BOT (2007).

APPENDIX 2

Appendix 2-1: Changes in Regulations of Capital Flows in Thailand (1997–2000)

	1997	1998	1999	2000
Foreign Exchange Regime				
Exchange rate system	<p>Independent floating adopted (effective July 2, 1997, the exchange rate of the baht was determined on the basis of supply and demand in the foreign exchange market.</p> <p>On July 2, 1997, the authorities introduced a two-tier currency market that created separate exchange rates for investors who buy baht in domestic and overseas markets.</p>	<p>January 30, 1998, the two-tier foreign exchange market was unified.</p> <p>January 30, 1998, baht proceeds from sales of stock by non-residents no longer need to be converted into foreign currency at the onshore market rate.</p>		
Regulations of Foreign Exchange and Capital Transactions				
Major developments	A series of measures introduced to limit capital outflows.			
- FDI				
Inward direct investment	<p>The foreign ownership limit of 25% for financial institutions was lifted on a case-by-case basis.</p> <p>Foreign investors were allowed full ownership of local financial institutions for up to 10 years.</p>			

		1997	1998	1999	2000
Outward direct investment					
- Portfolio investments					
Inflow	Purchase locally by non-residents.				
	Sales or issue abroad by residents.				
Outflow	Sales or issue locally by nonresidents				
	Purchase abroad by residents.				
Others					
General provisions					
	Borrowing Position limits				
	Deposits & Reserve requirement				
Inflow	Financial Institutions		Commercial banks are required to maintain at least 6% of their non-residents foreign exchange deposits in the form of (1) at least 2% as nonrenumerated balance at the BOT; (2) at most 2.5% value cash; and (3) the rest in eligible securities.		
Outflow	Enterprises	Securities lending transactions by non-residents were prohibited. On May 28, 1997, the BOT imposed temporary limits on outright forward transactions in baht with non-residents and on the	January 30, 1998, to guard against potential speculation, Thai baht credit facilities provided by each financial institution to non-residents, in cases where there are no underlying trade or investment activities in	(As of end December 1999) It was clarified that in applying the maximum outstanding limit of 50 million baht, the non-resident's head office, branches, representative offices, and affiliated	Penalty was prescribed for the violation of maximum outstanding limit on baht credit to non-residents (e.g. 10 days suspension of repo transaction with BOT). (As of end December

	1997	1998	1999	2000
	selling of baht spot to non-residents, and requested banks to submit daily reports of foreign exchange transactions with non-residents including all spot, forward, and swap transactions, as well as purchase of debt instruments from non-residents, to the BOT.	Thailand, were made subject to a maximum outstanding limit of 50 million baht per counterparty.	companies are counted as one entity.	2000) Baht credit facilities provided by resident banks to non-residents by way of derivatives must be used for domestic trade or investment activities. For non-resident accounts, approval is required for non-residents to sell foreign currencies for baht for same day delivery value same day and for next day delivery (value next day). Baht lending (direct loans) by commercial banks and other credit institutions to non-residents with or without underlying transactions or collateral is prohibited. (As of end December 2000) Residents are not allowed to use foreign exchange for domestic payments. Foreign capital may be brought into the country without restriction but proceeds must be surrendered to authorized banks or deposited in foreign currency accounts with authorized banks in Thailand within 7 days of
Other regulations	BOT tightened a remittance ban in response to stock sales by foreign investment funds. Payment in baht to non-residents on redemption of debt instruments was permitted only if the holding period exceeded 6 months. On January 7, 1998, proceeds from exports must be brought into the	January 7, 1998, proceeds from exports must be surrendered to authorized banks within 7 days of receipt (previously 15 days). All restrictions pertaining to transfer of Thai baht from the sale of domestic securities by nonresidents imposed in 1997 were lifted.		

1997	1998	1999	2000
<p>country immediately after payment is received and within 120 days from the date of export.</p> <p>In June 1997, the baht proceeds from sales of stock by non-residents were required to be converted into foreign currency at the onshore exchange rate. The authorities introduced a two-tier currency market that creates separate exchange rates for investors who buy baht in domestic markets and those who bring it from overseas.</p> <p>Effective September 8, 1997, foreign exchange earners were allowed to deposit their foreign exchange received in their foreign currency deposit account only if they have obligations to pay out such amounts to nonresidents abroad within 3 months from the deposit date.</p> <p>September 23, 1997, export proceeds exceeding 500,000 baht must be repatriated within</p>			<p>receipt.</p>

	1997	1998	1999	2000
	120 days from the date of exportation and surrendered to authorized banks within 15 days of receipt.			

Appendix 2-2: Changes in Regulations of Capital Flows in Thailand (2001–2004)

	2001	2002	2003	2004
Foreign Exchange Regime				
Exchange rate system	Effective June 30, 2001, the exchange rate arrangement of Thailand was reclassified to the category managed floating with no pre-announced path for the exchange rate from the category independent floating.			
Regulations of Foreign Exchange and Capital Transactions				
Major developments				Control measures introduced to prevent inflow of short-term speculative funds.
- FDI	Inward direct investment Outward direct investment		Thai residents were allowed to purchase immovable assets for residential purposes up to the equivalent of \$500,000 a person without BOT approval. Previously, BOT approval was required for all purchases.	
- Portfolio investments				

		2001	2002	2003	2004
Inflow	Purchase locally by non-residents. Sales or issue abroad by residents				
Outflow	Sales or issue locally by nonresidents. Purchase abroad by residents.		Residents were allowed to purchase foreign shares under employee stock option plans up to the equivalent of \$100,000 without BOT approval. Previously, BOT approval was required for all purchases.		Commercial banks allowed to purchase baht-denominated bond issued by foreign financial institutions. The Thai government allowed the issuance of baht-denominated bonds by International Financial Institutions.
Others					
General provisions					
Inflow	Financial Institutions	Borrowing Position limits			

	2001	2002	2003	2004
Deposits & Reserve requirement		Effective July 30, 2002, the total outstanding balances in all resident accounts should not exceed equivalents of \$10 million for a juridical person (previously, \$5 million).	<p>Effective September 12, 2003, the BOT imposed a limit of 50 million baht on the amount that non-residents may deposit with domestic banks.</p> <p>Effective October 14, 2003, non-residents may maintain domestic or foreign exchange accounts for settlement purposes only, while deposits held for other purposes must have a maturity of at least 6 months. Further, the total daily outstanding amount for all accounts may not exceed the equivalent of 300 million baht a non-resident without prior approval of the BOT. Any excess funds in these accounts at the end of the day must be surrendered to the BOT at a penalty rate.</p> <p>Effective October 14, 2003, interest may not be paid on non-resident accounts, except for fixed accounts with maturities of at least 6 months.</p> <p>October 14, 2003, accounts held by nonresidents were made subject to a maximum daily limit of the equivalent of 300 million baht an account unless prior approval has been granted by the BOT.</p>	

	2001	2002	2003	2004
Enterprises				
Outflow	<p>Effective December 28, 2001, direct loans in Thai baht were allowed to be made to entities in neighboring countries (i.e. Cambodia, southern parts of the People's Republic of China, Lao PDR, Myanmar and Viet Nam) under specified conditions and with prior BOT approval.</p> <p>Prior to September 24, 2001, when these regulations were liberalized, baht lending (direct loans) to nonresidents with or without underlying transactions or collateral were prohibited, except that lending to natural persons was allowed under specific conditions. Effective that date, financial institutions are allowed to extend direct loans in Thai baht with collateral to non-resident natural persons permitted to work in Thailand for not less than one year. Also effective that date, financial institutions may</p>		<p>The 50 million baht limit applies to loans to non-residents without underlying transactions with maturities of less than 3 months.</p> <p>In cases where there are no underlying trade and investment activities in Thailand, Thai baht credit facilities in the form of derivatives obtained by a non-resident from all domestic financial institutions combined are subject to a maximum outstanding limit of 50 million baht.</p> <p><i>(As of end December 2003) baht credit facilities provided by domestic financial institutions to non-residents by any means must be used for domestic trade or investment activities. However, financial institutions may provide credit facilities for other purposes, up to a limit 50 million baht an entity.</i></p>	

	2001	2002	2003	2004
	issue letters of guarantee to non-residents when there is a stand-by LC from a financial institution abroad.			
Other regulations		<p>July 30, 2002, the minimum amount of foreign exchange transactions required to be reported to the BOT was increased to the equivalent of \$10,000 from \$5,000.</p> <p>July 30, 2002, the limit on foreign currency account balance for a juridical person was increased to the equivalent of \$10 million from \$5 million.</p>	<p>July 22, 2003, the period for which foreign exchange derived from exports and certain other transactions may be deposited in resident foreign exchange accounts was extended to 6 months from 3 months, provided that foreign exchange obligations are due over the longer period.</p>	<p>(As of December 2004) Export proceeds of \$20,000 or higher must be repatriated immediately after payment is received and within 120 days from the date of export.</p>

Source: Reference materials for "Capital account liberalization and international capital flows" conference, Tokyo and BOT (2007).

References

- Akrasanee, N. (1999), *Thai Economy: 10 Years of Mis-management*, Infomedia Corporation, Bangkok (in Thai).
- Bank of Thailand, Press Releases on Exchange Rate Regulations, available from <http://www.bot.or.th/bothomepage/General/PressReleasesAndSpeeches/PressReleases/News2550/Thai/URRExperiences.doc>.
- Calvo, G., L. Leiderman, and C. Reinhart (1995) "Capital Inflows to Latin America with References to Asian Experience," in *Capital Controls, Exchange Rates, and Monetary Policy in the World Economy*, Edwards, S. (Ed.), Cambridge University Press: Cambridge.
- Cavoli, T. and R.S. Rajan (2005) "The Capital Inflows Problem in Selected Asian Economies in the 1990s Revisited: The Role of Monetary Sterilisation," SCAPE Working Paper Series No.2005/18, National University of Singapore CEIC Data Company Ltd (2006). CEIC Databases.
- Chaipravat, O. (2007) "Currency Management of Baht against U.S. Dollar," mimeo (in Thai).
- Edwards, S. (1999) "On Crisis Prevention: Lessons from Mexico and East Asia," *NBER Working Paper*, Cambridge.
- Fiscal Policy Office (2007) "the Bank of Thailand and 8-week Baht Monitoring" in *Capital Flows Weekly Focus*, 27 August–19 October 2007 (in Thai).
- Fiscal Policy Office (2007) "International Reserve Monitoring" in *Capital Flows Weekly Focus*, 19–23 November 2007 (in Thai).
- McCauley, R. (2001) "Setting Monetary Policy in East Asia: Goals, Developments, and Institutions", in *Future Directions for Monetary Policies in East Asia* (Sydney: Reserve Bank of Australia), pp. 7–55. <http://www.rba.gov.au/PublicationsAndResearch/Conferences/2001/mccauley.pdf>. Also published as SEACEN Centre Occasional Paper, no. 33, 2003.
- McCauley, R. (2006) "Understanding Monetary Policy in Malaysia and Thailand: Objectives, Instruments, and Independence", in *Monetary Policy in Asia: Approaches and Implementation*, BIS Paper no 31, December, pp. 172–198.
- McKinnon, R. and H. Pill. (1996) "Credible Liberalization and International Capital Flows: the Over-borrowing Syndrome", in *Financial Deregulation and Integration in East Asia*, Ito, T. and A. Krueger (Eds.) Chicago University Press: Chicago.
- Rudolph, J. (2000) "The Political Causes of the Asian Crisis," in *the Political Dimensions of the Asian Crisis*, Johannsen, U., J. Rudolph and J. Gomez (Eds.) Select Books: Singapore.
- Sangsubhan, K. (1999) "Capital Account Crisis: Some Findings in the Case of Thailand," mimeo.
- Sangsubhan, K. (2007) "Ten Years After the Crisis: Is Asia Ready to Move On?," mimeo.
- Sangsubhan, K. and C. Vorawangso (2007) "From Crisis to Recovery in Asia: Strategies, Achievements, and Lessons," A Paper Presented at the Bangkok Conference on

Advancing East Asia Economic Integration: Building the Institutional and Foundation of Economic Growth and Integration in East Asia, Bangkok, 22–23 February.

Stiglitz, J. (1999) “Bleak Growth Prospects for the Developing World,” International Herald Tribune, 10–11 April, pp. 6.

Yoshitomi, M. and S. Shirai (2000) “Technical Background Paper for Policy Recommendations for Preventing Another Current Account Crisis,” 7 July.