

Macroeconomic Policy for Emerging markets

Lessons from Thailand

Routledge: 2 Park Square, Milton Park, Abingdon, Oxon OX14 4RN

Routledge: 711 Third Avenue, New York, NY 10017

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Chapter 7

Exchange rate policy: Lessons from the past

1. Introduction

Theoretical arguments exist to support intervention in the foreign exchange market. According to Bilson (1985), there is a link between the variability of exchange rates and interest rates. Since interest rate fluctuations are a causal factor to the business cycle, as currency risk premiums increase, interest rates must also rise to compensate for the risk. The combination of the instabilities of the real interest rate and real exchange rate must hurt the economy. There are also internal factors such as domestic monetary shocks and political uncertainties which create currency volatility under the choice of fixed exchange rate regime (Hasan and Wallace, 1996).

Furthermore, real exchange rate volatility has a negative impact on private investment (Bhandari and Rabindra, 2010). According to Kenen and Rodrik (1986), volatilities of real exchange rates reduce the volume of international trade. Exchange rate fluctuations comprise risks and uncertainties, which can disrupt global trade flow. Exchange rate volatility has a significant negative impact on export flows to the world market (Chit et al., 2010). Even when the nominal exchange rate does not change, the real effective exchange rate can fluctuate as a result of movements of major currencies. Relatively high inflation at home can bring about the loss in international competitiveness. Krugman (1989) argued that the gains from international trade would be reduced when exchange rate instability blurs price signals which supposedly regulate global markets. If future exchange rates are uncertain, firms would be more cautious and delay investments, even when they face increases in demand for exports. This argument for a fixed exchange rate is based on the need to accumulate physical capital at an early stage of development.

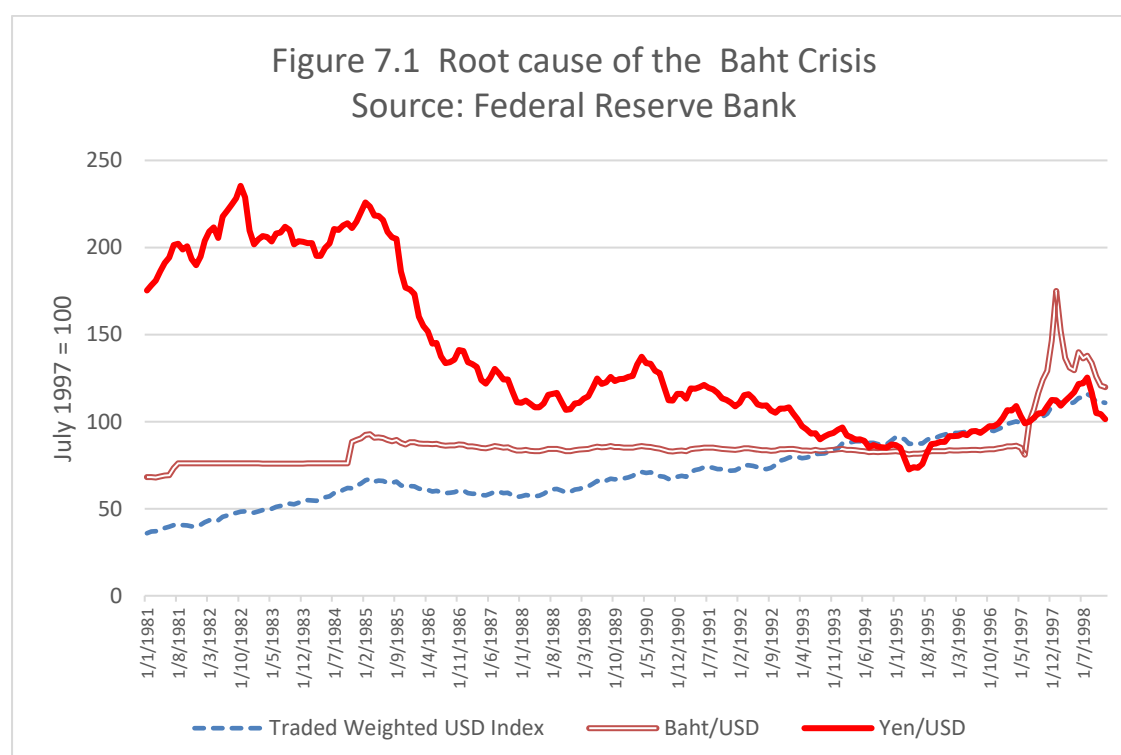
Between the 1960s and the early 1980s, Thailand benefited considerably from the fixed exchange rate system. Thailand experienced steady growth while maintaining a stable exchange rate. From January 1982 to October 1984, the baht exchange rate averaged at 23 baht to the dollar, depreciated by 2 %. From November 1984 to October 1985, the baht exchange rate averaged 27.3 baht, or devaluation by 18.5% compared to the previous period (Table 7.1). From then on until June 1997, the baht appreciated to 25.5 baht or 0.5 % on the annual average. This remarkable stability, later on, led to a massive depreciation by 40.9% between July 1997 and December 1998. From 1999 to March 2008, the baht exchange rate appreciated by 0.28 % on the average. There has been a pattern swinging from remarkable stability to extreme depreciation.

Table 7.1

Period average (year-on-year)			
	Baht/USD	Average Percentage change	Standard Deviation of Rate of Change(y-o-y)
Before 1984 devaluation (1982-oct 1984)	23.0	2.0	4.3
Nov 1984-Oct 1985	27.3	18.5	2.02
Nov 1985-June 1997	25.5	-0.5	1.84
July 1997-Dec 1998	39.7	40.9	31.8
Jan 1999- March 2018	35.9	-0.28	2.71
Source: Bank of Thailand			

GDP grew steadily at an annual rate of 7 percent. In this period, the trade volume rose from 35 to 75 percent of the GDP. Rapid economic growth was achieved without sacrificing price stability. It can be argued that the fixed exchange rate system had contributed significantly to trade expansion and rapid output growth. In 1963, the baht was initially pegged at 20.8 baht to the US dollar. The baht exchange rate remained at that level until 1973, when the Bretton Woods system broke down, and the baht was revalued to 20.0 baht, the price that had been fixed for another five years. Then came the first devaluation in July 1981; the baht was devalued by 8.7 percent to 23 baht to the dollar. In 1984, the second devaluation by 14.7 % took place. In the 1980s, devaluations were carried out as a last resort when other policies failed to correct the unsustainable current account deficit. Even after external disequilibrium was corrected by establishing a realistic exchange rate, old habits die hard. A system of a basket of currencies, including the US dollar, Japanese yen, West German mark, UK pound sterling, Malaysian ringgit, Hong Kong dollar, and Singapore dollar, was adopted after the baht devaluation in 1984. It was supposed to give the baht more flexibility. It turned out that the dollar weight in the basket gradually increased until July 1997. In reality, the baht had returned into the fixed exchange rate regime despite adopting a currency-basket system. At the end of June 1997, the currency-basket system set the exchange rate at 25.8 baht to the dollar.

After the Plaza Accord, the yen started its long-term appreciation against the USD. Consequently, the baht depreciated against the yen because of the baht peg to the dollar (Figure 7.1). Thailand benefited by increasing exports to Japan and rising Japanese FDI inflows. By 1995, the baht was pegged to the dollar, which started to appreciate against the yen. As a result, Thailand's exports suffered from the strengthening of the baht exchange rate against the yen; the current account deficit was enlarged because the overvalued baht led to rising imports. The Bank of Thailand imposed the 18% credit growth ceiling on commercial banks loans. That policy did not work since the root of the problem was the overvaluation of the baht. When the deficit became unsustainable, floating the baht was the only option left.



With increasing integration, the costs of maintaining a fixed exchange rate regime outweighed its benefits. If monetary authorities give priority to maintaining exchange rate stability, intervention in foreign exchange markets may reduce the effectiveness of monetary policy. Establishing baht stability by increasing weight of the US dollar in the basket caused an appreciation of the baht when the dollar appreciated against other currencies. Overvaluation of the baht resulted in a loss of competitiveness. The exchange rate was maintained by continued intervention in foreign exchange markets. The fear of floating can be seen as a reason for such intervention (Calvo and Reinhart, 2002). Before the 1997 financial crisis, Thai financial institutions borrowed heavily in dollars. Allowing the baht to depreciate substantially to correct the current account deficit would have damaged the balance sheets of banks and finance companies. The Bank of Thailand continued intervening in the spot and forward exchange markets despite a substantial loss in international reserves. Adverse consequences of the fixed rate had become more apparent after confidence in the baht was eroded by speculative attacks.

From 1960 to the early 1990s, Thailand's output expanded rapidly because of steady growth in exports and investment. From 1990 to 2008, the share of exports in GDP increased from 40 % to over 70%. After the 1998 collapse of financial institutions, investment ceased to be a growth engine. By 2000, the share of investment in GDP had declined from 40 % to 20 %. Before the 2008 global recession, exports remained the main engine of growth. Thailand depends on imported intermediate products to manufacture export goods. When Thailand experiences export shortfalls, imports would be curtailed accordingly. Thus, a global slowdown that shrank the demand for Thai-manufactured exports did not lead to a current account deficit. Imports always move in line with exports. Therefore, contribution to growth by exports must not be overstated, since a surge in exports simultaneously leads to a considerable rise in the import of raw materials. The content of Thai exports has changed considerably from agricultural commodities to manufactured products since the early 1990s. Imported components of electronic products are required to produce hard disks and computers. These industries create lower value added than agricultural commodities and processed food exports, which mainly utilize domestic raw materials. Without realizing this fact, the urge to keep the baht unrealistically weak will remain.

This chapter examines Thailand's exchange rate policy and its macroeconomic impacts in recent decades. It provides a critical review of Thailand's exchange rate policy and draws lessons from past mistakes. Capital controls and interventions in the foreign exchange markets will be discussed.

2. An abrupt exit from the fixed exchange system

In addition to containing foreign exchange risk to promote international transactions, a fixed exchange rate can assure a steady output growth path. Therefore, the central bank regularly intervenes in foreign exchange markets. There are theoretical arguments for choosing a flexible exchange rate system. According to Friedman (1953), speculations are likely to be stabilizing as long as market participants are rational. When markets are efficient, there is no room for destabilizing speculation. As we have seen from the Asian financial crisis in 1997 and the US subprime loans crisis in 2008, the speculative behavior is not always stabilizing. There is no concrete evidence of efficient asset markets. In Thailand, there were periods of departure from the uncovered parity, which coincided with a high level of risk premiums. Speculation can be destabilizing, and negative externality provides a reason for intervention.

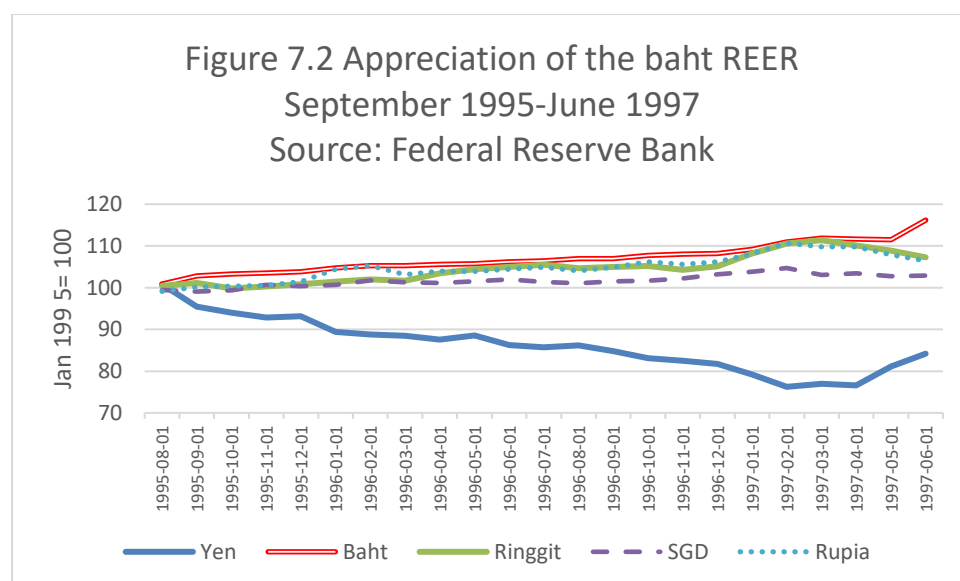
Pegging an exchange rate can lead to unrealistic values when productivity and price levels change over time. The Purchasing Power Parity (PPP) may not provide a benchmark for targeting the exchange rate. Substantial departures from the PPP, even in a world of flexible exchange rates, can exist in the short run and even over decades (Obstfeld and Rogoff, 1995). With a considerable difference between productivity growth in the tradable and non-tradable goods sectors, a country can experience rising relative prices of non-tradable goods, resulting in the appreciation of the real exchange rate. Therefore, it is impossible to pinpoint the exact equilibrium value of the exchange rate based on deviations from the PPP. Nor can the current

account deficit indicate a precise degree of overvaluation of the exchange rate. As discussed in the previous chapter, the investment-saving relationship also determines the current account position. Indeed, intervention in foreign exchange markets to obtain an appropriate value of the exchange rate must be exceedingly difficult, without considering further complications arising from the impact on domestic absorption caused by changes in the exchange. So, one of the arguments against a fixed exchange rate system is that even if it is desirable to adjust the exchange rate to provide stability, there is also a question about the level of the exchange rate at which a country should choose to peg.

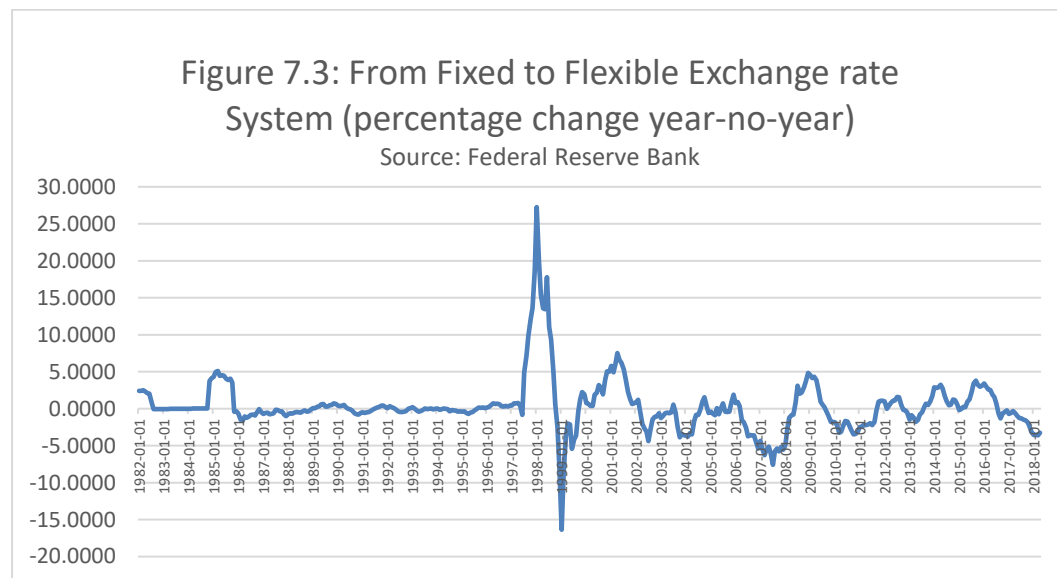
A flexible exchange rate allows the baht to become more flexible in response to fluctuations in world trade volume. Broda (2004) provided evidence that short-run real output responses to real shocks are significantly smoother in floats than in pegs. Coudert and Couharde (2009) found that pegged currencies were significantly more overvalued than flexible currencies.

If the baht appreciated more than other currencies, there must be some other factors in addition to the appreciation of the yen that contributed to the baht strength. Capital inflows were the source of the strength of the baht. Using the monthly data from January 1994 to June 2017, the correlation coefficients of the real board effective exchange rates between the baht and the US dollar is -0.73, suggesting that the direction of the US dollar influences the movement of the real effective exchange rate or the overall competitiveness of the baht.

When Thailand embraced the IMF's capital account liberalization policy, borrowing in foreign currencies was encouraged. The real effective exchange rate of the baht appreciated more than in trading partners' currencies (Figure 7.2). By June 1997, the real effective exchange rate of the baht appreciated more than the yen, the ringgit, the rupiah, and the Singapore Dollar (SGD). The fixed exchange rate of the baht to the dollar did not reveal the erosion of Thailand's competitiveness as much as the real board effective exchange rate shown in Figure 7.2.

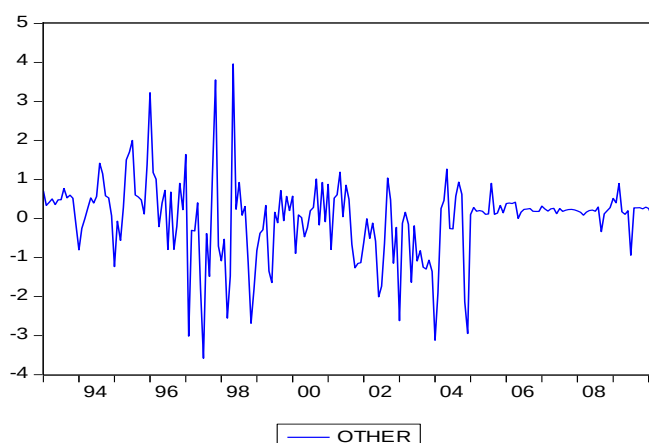


On July 2, 1997, the Bank of Thailand gave up defending the baht, and the exchange rate plunged to 27.4 baht to the dollar. That was just the beginning of a long slide of the baht. The value of the baht kept declining and triggered a financial crisis in Asia. Other regional currencies also suffered similar steep declines. When an exchange rate had been unrealistically fixed for so long, the cost of intervention soon outweighed its benefits. After the floating in July 1997, the baht depreciated to a record low of 55 baht to the dollar in January 1998.



Capital inflows include FDI, bank borrowings, and portfolio investment. Other capital flows (OTHER) were deposited in non-resident baht accounts, which can be used later for speculative purposes in currency and bond markets (Figure 7.4). These flows were related to speculation that the baht would imminently be devalued. The irregular flow returned to normal after the massive devaluation of 1998. After 2006, there was no wild fluctuation of this types of speculative flows after the baht regained its stability and the speculation died off slowly.

Figure 7. 4 Capital flight and the financial crisis



3. Export Competitiveness and REER

In 1995, the continued strength of the dollar caused overvaluation of the baht, which needed to be corrected by a free fall of the baht against the dollar in the second half of 1997. Table 7.1 indicates the large swings of the baht after the float in July 1997. By 1999, the baht began to depreciate again, but the degree of depreciation was higher than its appreciation. Asymmetric intervention maintained the bath stability. The Bank of Thailand will intervene less when the baht depreciates and more when the baht appreciates. The fear of appreciation is unwarranted. The Bank of Thailand does not want to hurt exporters, but on the other hand, importers, investors, and consumers could have enjoyed the benefits of cheaper imported goods.

Apart from the possibility of retaliation by other competitors, devaluation does not ensure a long-lasting effect on international competitiveness, which depends on a productive labor force, savings, and technological progress. A strong currency may be associated with export competitiveness. A country with a high savings rate and rapid productivity growth will experience real exchange rate appreciation while commanding a considerable degree of international competitiveness. It has always been suggested that Thailand needs a weak baht to help exporters gain competitiveness. Since changes in foreign exchange rates profoundly affect prices of all commodities in the country, we must evaluate the overall impact foreign exchange rate changes. For example, there is a distributive income issue, which involves income transfer between exporters and importers, tradable and non-tradable sectors, and creditors and debtors in foreign currencies.

Flexibility in the real wage rate could explain why Thailand was able to maintain the fixed exchange rate for so longⁱ. According to Obstfeld (1998), before the 1997 crash, Thailand had been a “puzzle” since it is unusual for countries to observe the fixed exchange rate discipline for longer than five years. The flexibility of wages and prices would not require Thailand to rely on flexible exchange rates as a means to correct macroeconomic imbalances. Conservative fiscal policy (fiscal surplus) before the 1997 crisis helped mitigate monetary expansion caused by capital inflows. Monetary base growth was prevented from being explosive, threatening price stability under the fixed exchange rate system with an open capital account. With many policy objectives, the fixed exchange rate system, which previously worked well as a domestic anchor, had to be sacrificed.

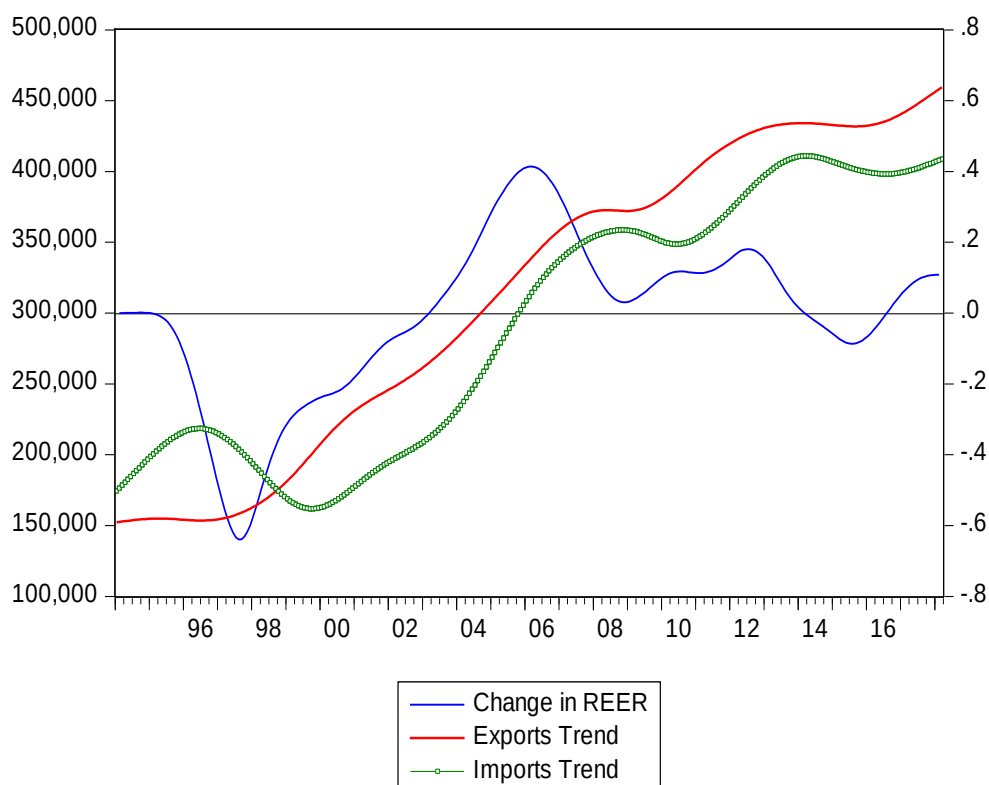
Depreciation of real effective exchange rate does not always imply a gain in price competitiveness. Not only the direction of the movement matters but also the gap between actual and equilibrium real exchange rates. A real depreciation would not improve competitiveness much if the actual real effective rate were significantly overvalued. A real appreciation may not necessarily imply a loss in competitiveness if it reflects a productivity gain.

Between 2001 and 2005, the real effective exchange rate of the baht depreciated by 10 percent. The weakened baht helped the Thai economy recover from the recession through strong export growth. This depreciation had much to do with the strength of the dollar in the early 2000s.

While the real effective exchange rate of the yen depreciated from 2000 to 2007, the weakening of the dollar only began after 2003ⁱⁱ. Starting in 2005, weaknesses in both currencies gave rise to real effective appreciation of the baht. This episode led to the adoption of capital controls in Thailand in December 2006. By 2007, the yen began to climb, and the dollar started appreciating in its aftermath, leading to the depreciation of Thailand's real effective exchange rate, and relieving upward pressure on the baht. As the real effective exchange rate appreciated, it encouraged more imports. We have seen the upswings of the importation of goods. However, the impact of uptrend of the real effective exchange rate did not show a significant effect on the movement in the trend of exports. Imports also are affected by rising export trends due to the expansion of the demand for parts and components of export products.

The trend of REER, shown in Figure 7.5, indicates that the baht competitiveness increased right after switching to a more flexible exchange rate system. By 2006, the competitiveness of the baht exchange rate eroded gradually. During this episode of the strengthening of the baht, it did not adversely affect export growth. Hence, there must have been other factors contributing to the rapid growth of exports and imports.

Figure 7. 1 Trends of the baht REER and imports



When monetary authorities allow the baht to fluctuate more freely, it will be difficult to target a specific level of real effective exchange rates, let alone its directionⁱⁱⁱ. The real effective exchange rate of the baht always moves in the opposite direction of the yen and dollar, while the impact of dollar movement has become increasingly more dominant. The long-term relationship suggests that the interest rate policy employed by that the Bank of Thailand to target the real effective exchange rate may not be useful since world's key currencies determine

the baht's real effective exchange rate. When the real effective rates of the dollar and the yen depreciate, that of the baht would appreciate accordingly. Liew et al., (2009) pointed out that the influences of domestic and foreign monetary policies on Thailand's exchange rates cannot be neglected.

With more open capital accounts, the Bank of Thailand must choose between targeting the exchange rate or the interest rate. If the interest rate is targeted, the Bank of Thailand must stand by to adjust the money supply to bring about the desired level of the interest rates. Capital controls permitted the Bank of Thailand to pursue a monetary policy to produce the level of money supply which is consistent with the internal equilibrium condition. At the end of 2006, capital control was employed to delay baht appreciation against the dollar.

4. Intervention in the Foreign Exchange Markets

A fixed exchange rate system together with an open capital market is incompatible with independent monetary policy. Thailand has learned this lesson well after the 1997 currency crisis. The fixed exchange rate functioned well with monetary autonomy and a certain degree of capital controls. When capital controls were relaxed in 1993 to liberalize capital accounts, monetary autonomy was sacrificed. Trade reform can improve efficiency and resource allocations. However, as Bhagwati (1998) pointed out, there is a big difference between liberalization of trade and capital flow. Capital account liberalization does not always lead to welfare-improving because the financial infrastructure is not ready to cope with capital inflows. Lack of financial supervision and prudential rules and regulations on financial institutions led to excessive lending and property bubbles. Eichengreen (2000) suggested that Chilean-style capital control should be retained until banks' risk management practices and regulatory oversight have been upgraded. Capital control is found to be sufficiently supported by both economic theory and empirical evidence as ways to address macroeconomic problems associated with the short-term capital flow (Montecino and Cordero, 2010).

The exchange rate is determined by trade and capital flow, in addition to external factors and exchange rate expectations. Exchange rate movement can be considered an indicator of country risks. A sharp plunge in the baht value would signify governmental mismanagement of the economy. Severe deterioration of the external value of the baht during the last quarter of 1997 reflected in part the loss in policy credibility of the ruling government during a period of political turmoil.

Since capital controls are costly to enforce and may reduce welfare due to intertemporal consumption, total capital control is impossible. Insofar as excessive short-term capital flow raises the possibility of a financial crisis, hot money flows should be limited by establishing prudential regulations on overseas borrowing by the private sector.

The flexible exchange rate system also sends a signal to the private sector that borrowers of foreign capital must internalize some costs of failing to hedge against unanticipated movement of exchange rates. The need for strict capital controls is reduced as capital flight declines.

Flexibility in foreign exchange rates guarantees that there is no severe misalignment of the exchange rate. Therefore, the probability of capital flight would reduce, provided that economic fundamentals and political stability prevail. The evidence presented by Dubas (2009) indicated that an intermediate exchange rate regime between a pure float and hard peg is most effective in preventing exchange rate misalignment. Moreover, the welfare level of a small country under a freely floating regime was in generally higher than under other systems (Akiba et al., 2009).

The dollar/baht rate still determines the effective exchange rate movement because of the dominance of the dollar in international trade transactions. Depreciation of the baht against the yen slowed appreciation of the baht's nominal effective exchange rate. Thus, the nominal effective rate did not appreciate as much as the dollar/baht exchange rate. Market intervention cannot maintain the competitiveness of the baht (when using the effective rate measurement).

Taylor (2001) observed that the current appreciation of the exchange rate, through inertial effects of exchange-rate transmission and the existence of a policy rule, will result in a decline in the interest rate. Even though the exchange rate is not an explicit part of the policy rule, because of current appreciation of the exchange rate, it becomes more likely that the Central Bank will lower the interest rate in future as inflationary expectations are revised downward. Monetary-policy rules that respond indirectly to exchange rate changes might work better than rules which respond directly. Accordingly, if the Bank of Thailand does not resist baht appreciation, there will be less need to initiate interest hikes to curb inflation.

Intervention cannot slow down baht appreciation, which is caused by the inherent weakness of the dollar. The Bank of Thailand cannot resist the trend of baht appreciation by intervening in foreign exchange markets ^{iv}. Increased intervention, as measured by the ratio of net forward position as a percentage of total reserves, did not halt baht appreciation. As a clear trend of baht appreciation emerged at the beginning of 2006, exporters did not want to hold dollars long after receiving payment. As the dollar's strengthening trend continued, the Bank of Thailand suffered enormous financial losses from buying the dollar forward to reduce pressure on the baht. From January 2003, when the net forward position (NFP) was a few percentage points of total reserves, the intervention was intensified as the baht appreciated in 2006 and 2007. By January 2008, the amount of net forward position of the Bank of Thailand peaked at 24 % of total reserves. By 2011, The Bank of Thailand can issue bonds without seeking approval from the Ministry of Finance.

International reserves accumulated every month; the Bank of Thailand was obliged to sterilize capital flows by issuing bonds to mop up the excess money supply. In doing so, it built up pressure on interest rates. As the federal funds rate was continuously cut to prevent a recession in the USA, the Bank of Thailand was not able to maintain high-interest rates to fight inflation, because widening uncovered interest differentials would further induce capital inflow and currency appreciation.

During December 2006, in a desperate attempt to prevent baht appreciation, a zero-interest reserve requirement of 30% on short terms flows was imposed. In effect, the onshore and offshore markets for the baht were differentiated. Since the baht's strength was caused by

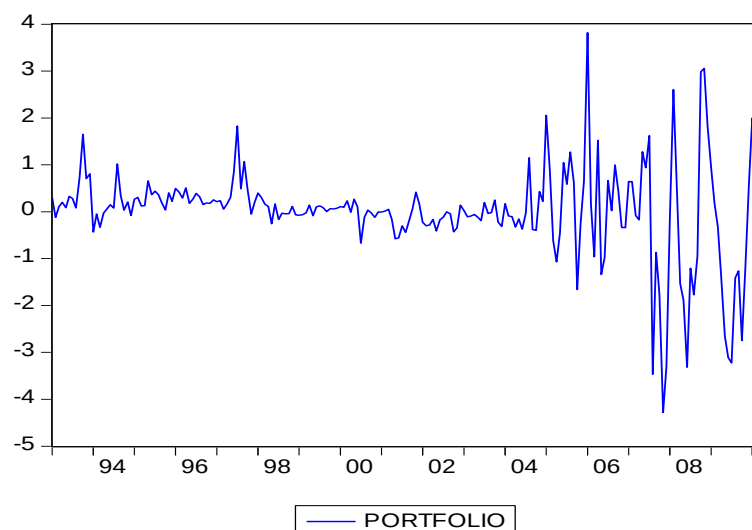
portfolio inflow; it was not surprising that the Bank of Thailand attempted to stem the flow of portfolio investment by imposing Chilean-type capital controls. In 1991, the Bank of Chile imposed a 30 % unremunerated reserve requirement (URR) to curb short-term capital inflow, which tended to cause domestic currency appreciation. Although the URR did not reduce capital inflow or halt currency appreciation, it changed the composition of inflow from short to longer maturity. Forbes (2007) found evidence that the Chilean URR increased financial constraints for small firms and misallocation of resource occurred because the control discriminated against short-term projects and firms that depend heavily on bank credit.

Investors in the stock markets were against capital controls because the control measure inhibited capital inflow to the stock market. The URR measure led to a stock market collapse and prompted the Bank of Thailand to exempt portfolio investment from capital controls one day after the measure was announced. The Bank of Thailand further relaxed and exempted debt instruments and forward covered transactions from the URR.

There is no evidence that the capital controls imposed in 2008-2009 significantly slowed down appreciation, as the Bank of Thailand had hoped. There are also unintended effects of capital controls. Asiedu and Lien (2004) found evidence that capital controls deter foreign direct investment in East Asian countries. In 2007, although foreign investment in Thailand increased, the percentage increase was much lower than in neighboring countries such as Malaysia and Vietnam. Coelho and Gallagher (2010) suggested that, by employing Columbia and Thailand as case studies, there is still a role for capital control to play in the 21st century, but such restrictions should be more sophisticated than the past. The fact that capital controls are envisaged as anti-globalization by investors, among other policies of a military-installed government, the Chilean-style capital control measure became counterproductive and costly regarding financial losses to the Bank of Thailand.

Moreover, exporters would have no incentive to improve efficiency, since they were relying on undervalued currencies. Moral hazard arises as exporters believe that the government would help them by keeping exchange rates competitive. Figure 7.6 shows the deviations of portfolio flows from their trend. In December 2006, portfolio investment fluctuated wildly after the imposition of capital controls^v.

Figure 7. 6 Volatility of Portfolio Flows during the period of Capital Controls (Normalized Values)



The Stock Exchange of Thailand recorded the single most significant one-day loss in its history of 820 billion baht—a decline of 14.8% one day after the measures were announced. On March 3, 2008, the Bank of Thailand finally abandoned capital controls, reasoning that the economic situation had returned to normality and they were no longer needed. In late 2009, after the fear of global recession subsided, capital inflow into the stock market resumed, and the baht regained strength.

The stock exchange index of Thailand rose to 43.8 % from December 30, 2010, to February 2, 2011. It is essential to understand the macroeconomic policy consequences of this attempt to maintain a weak baht.

In the aftermath of capital controls, wider fluctuation of portfolio investment is to be expected. Notably, foreign investment, which is not supposed to fluctuate widely, becomes more volatile. It suggests that foreign investors are affected by the Thai government's uncertainty and policy inconsistency after the restriction of capital flow. Capital control was the wrong policy applied for the wrong reason. Previously, Thailand had maintained an open-door policy to foreign investors. Authorities believed that capital controls would not impact long-term investors since the policy was only applied to short-term flow and for a specific duration. Little did the authorities realize that animal spirits of investors do not distinguish between short and long-term control measures. When policy becomes inconsistent with past expectations, the risk premium is heightened resulting in massive capital flight from the stock market.

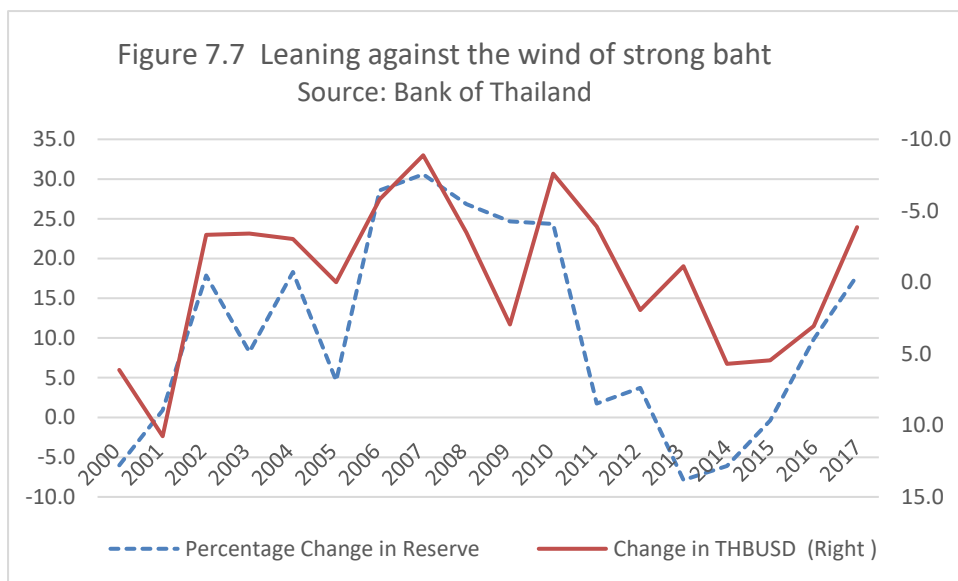
During a period of continued appreciation of the baht, the Bank of Thailand was under pressure to resist baht appreciation to protect exporters. The Bank of Thailand intervenes less in the forward market, thus allowing the baht to appreciate against the dollar. The Bank of Thailand has gradually raised its policy interest rate to discourage inflationary pressure. There is concern

that the enlarged interest rate differential between key policy and federal funds rates would induce more capital inflow and further strengthen the baht.

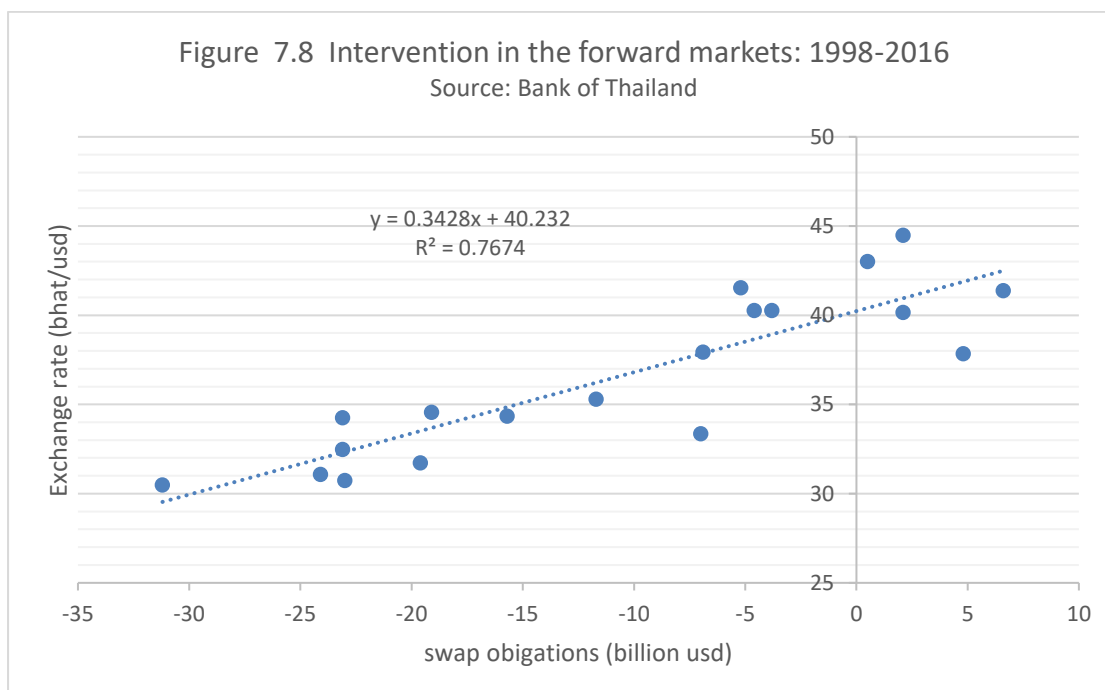
In October 2010, the government revoked the 15 percent withholding exemption on interest and capital gains earned by foreign investors. The motivation of this policy was to prevent baht speculation as there was a capital flow surge in the bond market. Tax instruments were called upon to slow baht appreciation. Again, this policy was likely to fail to reduce capital flow, because the inflow is the result of portfolio investment in response to anticipation of capital gains in the Thai stock market.

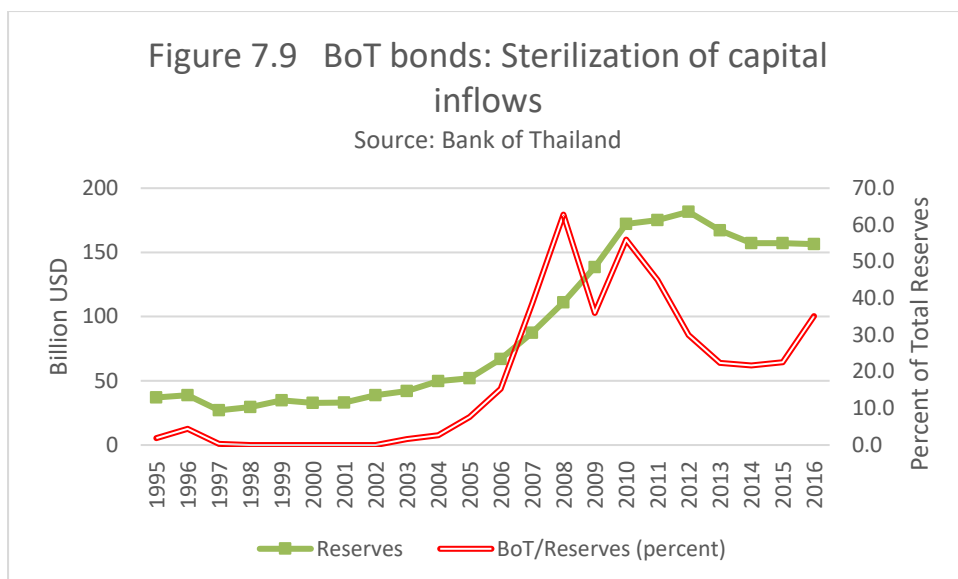
The Bank of Thailand has promoted direct investment abroad to lessen pressure on the strengthening baht. Listed firms are permitted to invest overseas. The ASEAN Economic Community Agreement that went into effect in 2015 would ease the restriction on outward portfolio investments. With uncertainties in the recovery of the US economy and the sovereign debt crisis in Europe, there would be more volatility of the baht. The Bank of Thailand still ponders the use of various kinds of capital control measures to curb capital inflow, hoping that they may have some deterrent effect on speculators.

The baht continued to gain strength against the dollar, which depreciated to correct the US's unsustainable current account deficit. The strength of the baht could have been more spectacular without market intervention by the Bank of Thailand. As the level of international reserves kept rising, the question arose whether the accumulated reserves could put to uses such as financing budget deficits or repaying debts accumulated from financial institution bailouts. The principal reason for intervention was the unwarranted fear that a strong baht would hurt Thai exports and slow economic growth. Therefore, the central bank must keep the baht at a competitive level. The Bank of Thailand still intervenes regularly to prevent the baht from rapid appreciation. As a result, the number of international reserves increased from 26.9 billion dollars in 1997 to 138 billion dollars in 2009. During this period, the baht appreciated from 47.2 baht to 33.3 baht to the dollar. By March 2018, foreign exchange reserves increased to 215.6 billion dollars, and the baht appreciated to 31.7 baht.



Intervention to manage the baht exchange rate to help exports are carried out regularly. Figure 7.8 shows that, between 1998 and 2016, the Bank of Thailand bought the dollar forward (negative swap obligations) when the baht appreciated and sold the dollar forward (positive swap obligations when the baht depreciated). At the height of the baht appreciation to almost 30 baht to the dollar, the Bank of Thailand bought the dollar at the spot and forward markets to prevent the baht from appreciation beyond the 30-baht psychological level. Buying the dollar increases the international reserves, which expand the monetary base. Sterilization of capital flows can be done by selling the BoT bonds to absorb the money supply.

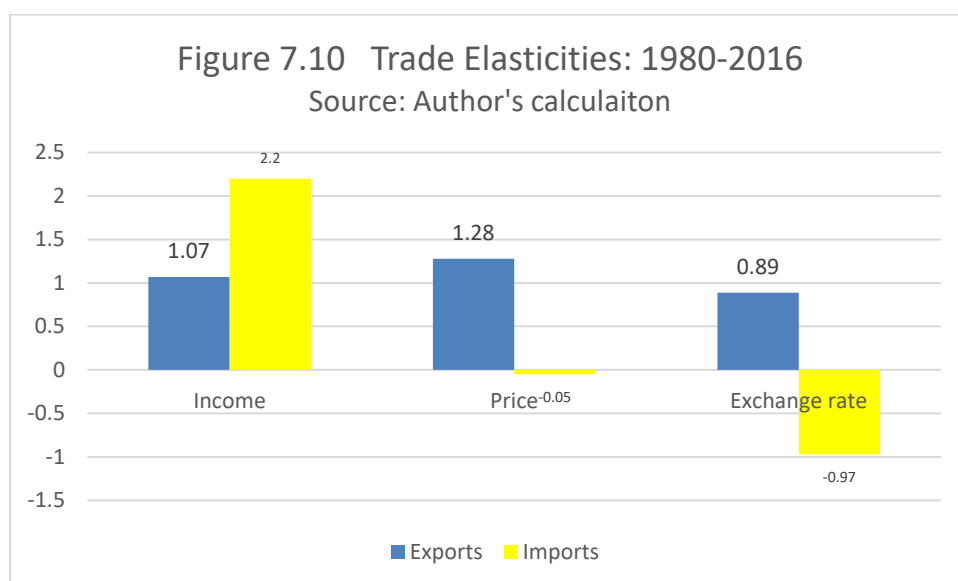




Exports are mainly responsive to output growth. With expansion in capacity output and a greater degree of capital utilization, exports can be increased. Therefore, instead of engineering a weak exchange rate, exports can be raised in the long term through promoting the flow of capital into productive sectors. Any measure that hinders capital inflow and foreign direct investment can reduce export growth in the long run. Political unrest and uncertainty, capital control, protectionism, and policy inconsistency would entail the reduction of long-term capital flow and thereby reducing export in the long run.

If Thai monetary authorities are unwilling to let the exchange rate adjust to equilibrate external imbalances, the burden of the adjustment falls on output. If the real exchange rate is allowed to appreciate in response to surplus in the balance of payments, export growth can slow to prevent the economy from overheating. Likewise, if the real exchange rate depreciates in response to a deficit in the balance of payments, exports can be enhanced to stimulate the economy. The exchange rate is such a crucial macroeconomic policy variable that we cannot do without its equilibrating role.

5. Trade Elasticities: How important is the exchange rate?



Employing monthly data from 1980 to 2016, we can estimate the trade value elasticities. The estimated elasticities are obtained from FMOL estimation (Figure 7.10). Except for price elasticities, world income elasticity of Thailand's exports and Thailand's income elasticity of imports are statistically significant at 0.05%. Although import and export price elasticities are not highly significant, they have the expected signs. Higher indexes of export and import prices increase values exports and decrease import values. When the world economic growth accelerates, Thailand's exports increase by almost the same percentage.

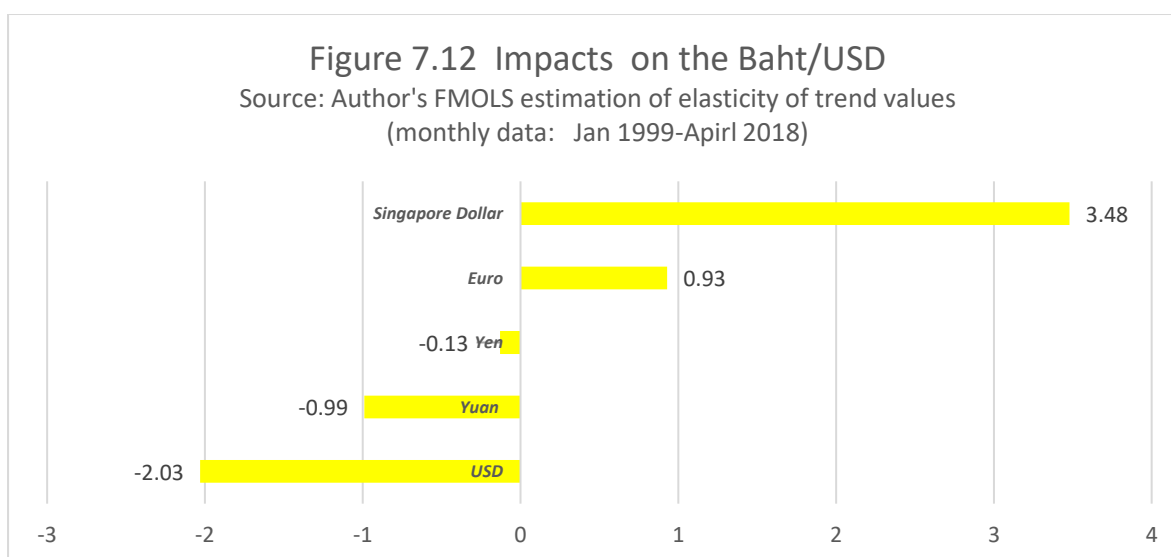
Similarly, Thailand's imports expand more rapidly than real output growth—more than double the rate of GDP growth. The Thai economy is highly importing dependent; thereby, it is experiencing a current account deficit during strong growth. Exchange rate movements matter for trade flows. The estimated exchange rate elasticity reported in Figure 7.9 confirms the importance of exchange rate policy management.

Nevertheless, because income elasticities are larger than exchange rate elasticities, income effects are stronger than substitution effects caused by exchange rate changes. Indeed, exchange rate depreciation increases exports and decreases import values. These estimated income elasticities are higher than unity, while estimated exchange rate elasticities are less than unity. By keeping the baht weak is not a good idea during the time of world economic expansion, because exports would be expanding despite a strong baht. During the time of the world's economic recession, Thailand's import and export growth would significantly slow down; an attempt to make the baht weaker to stimulate export growth would be futile.



6. Exchange rate policy Strategy: The Way Forward

The baht exchange rate appreciates or depreciates by external forces. When the trade-weight dollar exchange rate appreciates, the baht depreciate accordingly. The estimated elasticity of the dollar index was close to -2.02, which is much larger than the yuan and the yen. Hence the baht move in the opposite direction to the currencies of major trading partners. On the other hand, the baht exchange rate moves in line with the Singapore dollar (SDG) and the euro. The elasticity of the baht with respect to the Singapore dollar was about 3.5, implying that the baht move in line with the Singapore dollar and the baht is most sensitive to changes in the SDG exchange rate. The baht also moves proportionately with the euro USD and also moves proportionately in the opposite direction with the yuan. This finding suggests that the Bank of Thailand has very little room to conduct an independent exchange rate policy.



7. Concluding remarks

The chapter explores the issue of whether the central bank can create an optimum exchange rate policy that lies between the firmly fixed and the fully flexible exchange rate system. An appropriate exchange rate system can compromise the benefits to trade transactions under stable environment provided by the fixed regime and yet flexible enough to maintain adjustment mechanism of the flexible exchange rate regime.

Between the 1960s and 1980s, because of the zero foreign exchange rate risk, Thailand benefited from the fixed exchange rate system. At this early stage of development, exports were the primary growth driver. As the country developed further, investment and consumption became principal growth drivers. Exports contributed less to growth as imports increased in line with exports. There was a tendency to keep the exchange rate at a competitive level to propel export growth. When the country increasingly relied on foreign capital flow to finance the investment-saving gap, the current account deficit became unsustainable. It was difficult for the Bank of Thailand to allow the baht to depreciate because it would threaten the banking sector, which borrowed heavily in dollars.

Nevertheless, maintaining the overvalued exchange rate of the baht for too long led to a drastic exchange rate adjustment which culminated in currency and banking crises in 1997. In the early 1990s, when Thailand experienced rapid capital inflows, the Bank of Thailand did not permit the baht to appreciate against the dollar. Had the baht been allowed to appreciate, the overheated economy and ensuing economic crisis could have been avoided. From 2006 to 2009, the baht was once again undervalued, and the Bank of Thailand did not permit the baht to appreciate by market forces because of the concern that exports and economic growth could be jeopardized. A currency appreciation mitigates the impact of oil price shocks and would have no considerable effect on export growth, which was mainly dictated by world trade volume. An unrealistic exchange rate policy to protect exporters from currency appreciation may result in moral hazard and harm the incentive to enhance competitiveness through productivity improvement obtained from the importation of capital goods.

Interest rate policy cannot be used to target the value of the baht. Foreign exchange market intervention by the Bank of Thailand was intensified when the baht appreciated against the dollar from 2006 to 2009. Intervention in foreign exchange markets was ineffective because the baht/dollar exchange rate is determined by movements of major currencies and capital inflow to the stock market. An attempt to sterilize this flow would be costly and ineffective in the long run. When exchange rate changes are not allowed to correct current account disequilibrium, adjustments must take place from the output market. With a more flexible exchange rate movement, the burden of adjustment would not fall solely on output fluctuations.

Capital controls are instruments usually employed during currency crises. The fourteen-month capital control which began in December 2006 was unnecessary and ineffective. It might have had adverse consequences on foreign direct investment if it sent the wrong signal to investors

worried about policy commitment to open capital markets. As such, temporary capital control measures can be detrimental to long-term economic growth.

We have concluded that exchange rate matters for correcting trade imbalances. Too rigid exchange rate stability in such a way that the exchange rate becomes unrealistic can cause damages and invite speculative attacks. On the other hand, it is possible that wide fluctuations in the exchange rate can hamper trade and investment. A combination between adjustable and gradual changes in the exchange rate can be done when the imbalance-adjusted growth enters a critical zone, or when IAG rate falls into negative territory.

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ⁱ The flexibility of wage rate continued until the late 2000s. Domestic demand grew by 2.3 % and 4.1 % in 2007 and 2008, respectively, while the real wage rate rose by 0.7% and 4.8%. When domestic demand contracted by 6.6 % in 2009, the real wage rate declined by 1.6%. See Nidhiprabha (2003) for a discussion of wage flexibility and implications of the trade-off between inflation and unemployment.

ⁱⁱ The impact of the dollar decline on the US current account deficit was not apparent until 2008, when the US economy entered into the recession.

ⁱⁱⁱ For evidence on temporary movements of the real dollar rates and interest rate differentials, see Nakagawa (2002).

^{iv} Cointegration analysis indicates that the ratio of net forward position to total reserves moves in line with the rate of change of the baht exchange rate.

^v Similarly, FDI and banks' capital flows exhibited wild gyrations from their trends after the imposition of capital controls.