Monetary Policy by Indonesia, Malaysia and Thailand in the era of excess Forex reserves

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Abstract

Prior to the 1997 crisis, the three economies, namely Malaysia, Thailand and Indonesia, used either fixed or heavily managed exchange rate policies. There is a great deal of debates regarding the reasons of the East-Asian crisis by which these countries were more or less affected. The issue of an ‘ideal exchange rate policy’ is also hotly debated. However, after a decade, the problem of crisis has been transformed from a ‘crisis’ to a ‘surplus.’ The monetary authorities of these economies are facing the challenges of managing the reserves. Both the Bank of Thailand and Malaysia has moved from fixed to market-determined exchange rate system. Malaysia, however sticks to the fixed exchange rate policy. All the three economies have moved from base money to inflation targeting. They are using different instruments to set short-term interest rate. The Monetary Policy Committee (MPC) of the Bank of Thailand has set-up the rate of interest within the targeted zone of 3.5 per cent (per year). Other two economies are, however, not so rigid in maintain inflation-target.

Introduction:

Prior to the initiation of the so called ‘East-Asian Financial Crisis’, there was substantial amount of capital inflows in Asia as a result of high interest rate maintained by the Asian countries. The asset prices increased substantially due to huge investments in real estate and in other financial assets. Moreover, the countries Malaysia, Thailand and Indonesia have experienced high rate of growth including some other Asian economies. This era had been described as the ‘Asian economic miracle.’

1 Source: Post-Crisis Monetary and Exchange Rate Policies in Indonesia, Malaysia and Thailand, by George Fane, Australian National University, July 2005.
2 Research Associate, ICFAI Research Centre, Kolkata
However, the net inflows of capital are largely short-term (portfolio investments) in nature. This capital inflow consists of both debt and equities and short-term loans, which are largely speculative in nature and subject to risk. At that time, many Asian economies were experiencing current account deficits. Most of the Asian economies were maintaining fixed nominal exchange rate (the value of their currencies were pegged with the dollar). The real exchange rate of most of the economies appreciated as a result of domestic inflationary pressures. Consequently, the Asian economies export-competitiveness were undermined, and current account deficits increased.

Most of the East Asian economies, (except China and Taiwan), experienced significant increase in the rate of interest and slowdowns in economic activities at the same time. This led to considerable decline in the demands for one another’s exports, further aggravating recessions in these economies. Hong Kong, Singapore and Taiwan were not much affected since they did not have significant short-term debt, relative to their foreign exchange reserves.

However, within ten years (1997-2007) the scenario has changed dramatically. While at the time of crisis these economies were plagued by huge deficits, nowadays the central banks of these economies are facing challenges to manage the foreign reserves. The problem has been changed from ‘crisis’ to ‘plenty.’

The rest of the paper is distributed as follows. In Section I, the reasons of crisis in these economies, namely Thailand, Indonesia and Malaysia are briefly explained and the lessons learnt from the crisis are tried to be identified. In Section II, the present status of foreign reserves in these economies and the indicators of sterilizations have been discussed. In Section III, the evolution of various monetary and exchange rate policies adopted by these economies after the crisis have been discussed. Additionally, some arrangements to manage foreign exchange reserves and possible utilization of these reserves have also been discussed. Finally, some concluding remarks have been made.
Section I

What went wrong with these economies?

Thailand

The current account deficits in Thailand were huge by the end of June 1997. (Almost one billion USD per month) combined with high short-term foreign debt.

Unfavorable economic news from Thailand put excessive pressure on the baht starting on May 7, 1997. In 1990, the Thai Baht/US Dollar nominal exchange rate was 25.6; in 1996, it was 25.3, more or less similar. But the price level in these countries during the same period, increased by 17% in the United States and 33% in Thailand. Thus, whereas 1 USD could buy 25.6 Baht worth of goods in 1990, it could only purchase 19.0 (=25.3/1.33) 1990 Baht worth of goods in 1996. Hence; Thai goods have become much expensive compared to the same basket of goods in the United States and the countries whose currencies were pegged with the dollar.

The Bank of Thailand made an unmanageable amount of forward commitments of selling foreign currencies in order to protect the domestic currency from excessive speculative pressures. As a result, there was substantial decline of foreign currency reserves in order to meet the commitments. Naturally, the country was unable to repay her short-term debt obligations. The foreign exchange reserves fell to a meager amount. Therefore, the country had no other option except for seeking financial assistance from the International Monetary Fund and to float the baht.

This turmoil in the movements of the real exchange rate in Thailand spilled over to other emerging market currencies, including the Indonesian rupiah, the Malaysian ringgit. The countries whose currencies were adversely affected by the substantial decline in the value of baht due to excessive selling of baht against foreign currencies (due to the contagion

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3 The short-term foreign debt amounted to USD 36.5 billion.
4 The Real exchange rate is defined as $R = \frac{P^*}{P}$, where $e$ is the nominal exchange rate which was fixed, $P^*$ and $P$ are the foreign price level (dollar) and the domestic price level (the baht). Hence, $R$ is the relative price of importables from US to Thailand, which declines as $P$ rises much more than $P^*$. 

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effect) had similar characteristics with Thailand. Indonesia, Malaysia, and the Philippines had all been affected by an economic downturn in Asia. All had current account deficits (smaller than Thailand's, however) and most had accumulated huge short-term external debt within a short time span during the 1990s. Additionally, these economies had experienced a quick appreciation of property prices. Moreover, their financial sectors had large exposures to the real estate sector.

**Indonesia**

The monetary authority of Indonesia had expanded the range of fluctuations of rupiah from 8 to 12 per cent,\(^5\) in July 1997 following the floating of the Thai bhat. The rupiah suddenly came under speculative pressures due to the contagion effect of the Thai crisis, despite of having strong fundamentals. The managed float had been replaced by a free-float. Despite of that rupiah continued to decline due to excessive selling of rupiah by speculators due to the fear of potential capital loss and loss of faith on the domestic currency. There was sharp increase in the prices of the basic commodities (rice, wheat flour, cooking oil, sugar, soybeans, and eggs) as a result of the remarkable decline in value of the rupiah, the Indonesian currency. The long-term debt of Indonesia came under suspicion and the country had been downgraded with respect to the credit-rating. The unusual decline of the value of rupiah during the period of crisis can largely be attributed to the malfunctioning of the central monetary authority of Indonesia in managing her monetary liabilities. The base money had grown rapidly due to huge inflows of “crony capital”. As a result the rate of inflation increased tremendously. The rate of inflation was the highest among the Asian economies.

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\(^5\) i.e. the ‘trading band’ or ‘intervention band’ within which the Central bank allows her currency to trade without intervention.
Figure 1: Inflation in Indonesia during Crisis

![Figure 1: Inflation in Indonesia during Crisis](image)


Figure 1 shows that the inflation started to increase from the end of 1997 and accelerated rapidly in the first half of 1998. Though this sudden rate soon ended, but the rate continued to increase over the years. Though there might be several causes of the increase of this inflation, the growth of base money led to a demand-pull inflation by putting additional purchasing power to the domestic residents. Figure 2 shows that the movements of the Consumer Price Index (CPI) and the growth of base money has a very close resemblance.

Figure 2: Base Money growth and Inflation

![Figure 2: Base Money growth and Inflation](image)
Malaysia

In Malaysia, the financial crisis started towards the end of July, 1997. In the pre-crisis period, the country was plagued by a high current account deficit. During the period, there were substantial capital inflows in Malaysia as the country had become a lucrative investment destination. The turnover in Kuala Lumpur Stock exchange (KLSE) often used to exceed even markets like New York Stock Exchange (NYSE).

However, due to the contagion effect, in July 1997, the Malaysia ringgit was exposed to huge speculation. The local investors started to liquidate their stocks in fear of capital loss. The stock market declined by 68.58 per cent. The dollar-ringgit exchange rate was plummeted by over 37 per cent. The following figure shows the fluctuations in the Kuala Lumpur Composite Index (KLCI) and dollar-Renminbi exchange rate during the first sixty-three weeks of the crisis: (from July 1, 1997 to September 8, 1998.)
Visibly, the decline in the stock prices was much greater than the decline in the dollar value of the ringgit. In the meantime, the real output in the economy declined as a result of the contraction of manufacturing, agriculture and construction sectors of the economy. As remedial measures, capital controls were imposed. It is debatable whether the primary cause of financial crisis in Malaysia was due to the weak macro fundamentals or the substantial flight of short-term foreign capital from the country due to contagion effect. Seeking assistance from IMF in such circumstances became a general (and for some
countries unavoidable) practice. The conditional assistance had proven to be detrimental for many crisis-driven economies. However, Malaysia had been successful in avoiding assistance from IMF. A number of institutions have formed, such as Corporate Debt Restructuring Committee, Danaharta, Danamodal etc, in order to deal with corporate and bad loans as well as to ease asset realization on a regular basis. The recovery is sustainable and praiseworthy despite of being slow. The deficit in the current account turned into surplus over the years, the capitalization of the banks has been improved and the non-performing loans (NPLs) have been reduced.

**Lessons learnt from the crisis**

The crisis began in Thailand. Indonesia was mostly affected through the contagion effects from Thailand. However, all these economies were heavily dependent upon short-term capital inflows, which were subject to speculative attacks since these economies were lacking sound macroeconomic fundamentals and fragile financial markets. These economies were not ‘safe-haven’ like US. In addition to this, the short term debts relative to foreign reserves were huge with burgeoning current account deficits.

*The Danger of Short-Term Foreign Capital Inflows*

Excessive dependence on short-term foreign capital makes an economy and its exchange rate susceptible. Foreign direct investment is preferred to foreign portfolio investment or loans since it is less volatile. Long-term loan is superior to short-term loan in as much as the former is not subject to instant pulling out.

*Lessons regarding Foreign Exchange Reserves and Real Exchange Rate Appreciation:*

An ample level of foreign exchange reserves should be maintained. (10 months of imports). A fixed exchange rate and continuously rising inflation cannot be sustainable. High debt-equity (leverage) ratio should be reduced.
Post-Crisis Options for Exchange Rate Regimes

Maintaining fixed exchange rate and open capital account simultaneously is difficult since large capital inflows may push up the domestic price level. This might undermine the export-competitiveness of a country by making domestic exportable dearer compared to the rest of the world. Market-determined exchange rate increases monetary policy autonomy, but it is subject to huge speculation. A managed float where monetary authority intervenes occasionally is better than the extreme policies of either fully-floating or fixed exchange rate. However, a fully floating currency is difficult unless it has a big and profound financial market.

Section II:

The Present Status of the International Reserves of Malaysia, Thailand and Indonesia
According to the Central Bank of Malaysia (Bank Negara Malaysia), the international reserves of Malaysia amount to USD 96,788.00 millions at the end of August 2007, which rose further to USD 98.5 billion at 12th October 2007. This amount is enough to finance 8.6 months of retained imports. This is 7.2 times the short-term external debt.

The official foreign reserves assets of Indonesia stood at USD 51,426.42 million whereas the official foreign reserves assets of the bank of Thailand amount to USD 74,439.16 million (August, 2007). The following Table shows that Malaysia is in the top position both in terms of official as well as foreign currency reserves; however the rate of growth of foreign reserves in recent years is highest in Indonesia, (Table 2) though the country ranks lowest in terms of both official as well as foreign currency reserves.
Table-I: International Reserve Position of Malaysia, Thailand and Indonesia  
(August, 2007)

<table>
<thead>
<tr>
<th>Countries</th>
<th>Official Reserve Assets</th>
<th>Foreign currency reserves</th>
<th>IMF reserve position</th>
<th>SDRs</th>
<th>Gold</th>
</tr>
</thead>
<tbody>
<tr>
<td>MALAYSIA</td>
<td>96,788.00</td>
<td>91,491.10</td>
<td>185.50</td>
<td>219.50</td>
<td>293.50</td>
</tr>
<tr>
<td>THAILAND</td>
<td>74,439.16</td>
<td>72,128.45</td>
<td>113.43</td>
<td>0.89</td>
<td>1,800.49</td>
</tr>
<tr>
<td>INDONESIA</td>
<td>51,426.42</td>
<td>49,455.62</td>
<td>222.70</td>
<td>11.33</td>
<td>1,563.13</td>
</tr>
</tbody>
</table>

Source: International Monetary Fund.

Figure 1: Foreign Exchange Reserves of East Asia

The base money in Indonesia has grown much more rapidly than in Malaysia and Thailand. (Table 2). As a result, the rate of inflation is also very high in Indonesia compared to other two countries. The base money comprises the Net Foreign Assets as well as the Net Domestic Assets.

Base money = NFA + NDA

Where, NFA = Net Foreign Assets

NDA = Net Domestic Assets.

The Net Foreign Assets has increased tremendously in these countries.

**Table 2** provides a big indicator of sterilization policy. As per this indicator several economies have adapted to sterilization policy relatively to a greater extent in recent years.

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6 The growth is remarkable in Philippines.
7 Measured as the change in foreign reserves minus the change in base money (as a percentage of GDP).
8 Namely China, Malaysia and Thailand. Though the appreciation of Rupiah is large, however the sterilization is not significant for Indonesia.
Table 2: The Rate of Growth of the Base Money and Sterilization in some Selected Asian economies

<table>
<thead>
<tr>
<th></th>
<th>Foreign Reserves Growth (%)</th>
<th>Base Money Growth (%)</th>
<th>Sterilization Indicator (% of GDP)</th>
</tr>
</thead>
<tbody>
<tr>
<td>China</td>
<td>42.9</td>
<td>35.2</td>
<td>10.4</td>
</tr>
<tr>
<td>Indonesia</td>
<td>5.1</td>
<td>12.1</td>
<td>16.3</td>
</tr>
<tr>
<td>Korea</td>
<td>9.0</td>
<td>8.9</td>
<td>3.3</td>
</tr>
<tr>
<td>Malaysia</td>
<td>26.9</td>
<td>9.1</td>
<td>7.5</td>
</tr>
<tr>
<td>Philippines</td>
<td>2.5</td>
<td>14.8</td>
<td>9.5</td>
</tr>
<tr>
<td>Thailand</td>
<td>20.0</td>
<td>6.7</td>
<td>8.7</td>
</tr>
</tbody>
</table>

(1) Sterilization measured as change in foreign reserves less change in base money (as % of GDP). * Annual average in 2004-05.


The bank of Malaysia (BM), the Bank of Indonesia (BOI) and the Bank of Thailand (BOT) intervene in the foreign exchange market on a regular basis to purchase the foreign exchange reserves in order to prevent the domestic currency appreciation. The banks also intervene in the money market so as to maintain the target rate of interest.

The nominal rate of interest as well as the rate of inflation has been high in these countries.

Since, \( n = r + i \)

Where, \( n \)=nominal rate of interest
\( r \)=real interest rate.
\( i \)=the rate of inflation.
An increase in the base money leads to a higher rate of inflation, it leads to an increase in the nominal rate of interest. Inflation as well as the nominal rate of interest is higher in Indonesia compared to Thailand as well as Malaysia.

Section III:

Post Crisis Monetary and Exchange rate Policies of Thailand, Malaysia and Indonesia

The Bank of Thailand

According to the Bank of Thailand, the evolution of the monetary policy in Thailand can be separated in the following periods:

- The Pre-Crisis period: The Thai currency, baht was initially pegged with a basket of currencies. Until the Crisis period, the onus of defending the value of the baht (primarily with the US dollar) was with the Exchange Equalization Fund (EEF).

- The Post-Crisis period:(1997-2000): The country was almost bankrupt when she sought financial assistance from the IMF. The IMF provided a package of USD 16.7 billion for Thailand which was a short-term liquidity assistance. The country was forced to adopt a reform policy to augment her foreign exchange reserves. The country floated a floating exchange rate system. During this period; the policy was to control the domestic money supply.

- However after May, 2000 the Bank of Thailand’s objective has been changed from base money to inflation-targetting. The Monetary Policy Committee (MPC) of the BOT has set-up the rate of interest within the targeted zone of 3.5 per cent (per year).
The Bank of Thailand (BOT) has been more or less successful in maintaining its targeted level. The MPC in general utilizes the repo-rate as an instrument to control the rate of inflation. The MPC of Thailand increases the interest rate when the rate of inflation is high and reduces the rate when inflation declines. The reason, which is put forward from targeting base money instead of targeting the rate of inflation is that, the relationship between the rate of growth of output and base money gradually declines.

The Monetary Policy Committee of Thailand set 0-3.5 per cent target rate for core inflation. The target rate is set in order to –

- Minimize economic shocks.
- To avoid the need for the MPC to change her monetary policy frequently.
- Minimizing the volatility of short-term interest rate.
- Maintaining financial stability.

The MPC would use quarterly average instead of monthly averages as the latter is much volatile compared to the former. Given the inflation-targeting framework the BOT influences the short-term money market rates by the selected policy rate (which is now 14 day repurchase rate.). The BOT generally uses reserve requirements, open market operations (OMO) and standard facilities as monetary instruments. The foreign exchange swaps is an important instrument by which BOT controls the excess liquidity in the money market. The daily liquidity management by BOT is based upon setting daily and quarterly money base targets.9

**The Bank of Malaysia**

Price stability and low inflation have been the prime importance of the Bank of Malaysia. Maintaining exchange rate stability (Primarily, bilateral exchange rate stability against dollar) is another important objective. In order to stabilize the exchange rate the following measures have been adopted-

- Sterilized intervention by the Central Bank
- Limitations on cross-border money market and foreign exchange dealings.

The Bank Negara Malaysia has pegged her currency ringgit with dollar. Though the other countries have not pegged their currencies heavily with dollar they intervene regularly in the foreign exchange market. There is an interest rate target so as to maintain the rate of inflation within a target zone. The overnight interest rate has been chosen by Malaysia while Thailand has chosen the repo-rate.

Malaysia has pegged ringgit against the dollar, which helps the country to maintain a low and stable inflation. Despite of adopting the policy of pegged exchange rate the monetary autonomy of the Bank of Malaysia has not been totally lost. According the former Assistant Governor of Bank Negara Malaysia, Latifah Merican Cheong, “Interest rates in Malaysia have not been the main push-pull factor behind the movements of financial flows. The bulk of the reserve accumulation reflects trade flows rather than financial flows. This has largely mitigated the concern over possible sudden reversals of flows that could complicate monetary management.”

Targeting the nominal rate of inflation in the short-run is important. The floating exchange rate has an advantage of controlling the volatility of capital inflows as well as outflows. However, whether to target the rate of inflation or the base money is a difficult one. The central bank can directly influence the base money; on the other hand, controlling inflation is indirect and more difficult. Inflation -targeting has an advantage that the central bank credibility is not threatened. At the period of 1997-98 crisis, there was a fear that the Central bank of Indonesia has lost control of money supply which tends to lead a potential hyperinflation.

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10 As per the latest Monetary and Financial Development Report Released by the Bank Negara Malaysia, The ringgit appreciated against the US dollar by 4.7 per cent. the rate of inflation is also low at 1.8 per cent. Wednesday, 31 October 2007

11 Globalisation and the operation of monetary policy in Malaysia(2007) by Latifah Merican Cheong, BIS Papers No 23
The Bank of Indonesia

Latent fragilities in the financial and corporate sectors as well as lack of institutional framework were a big problem in Indonesia. The importance of simplicity and an efficient communications strategy in order to manage market expectations is welcomed. The biggest problem in Indonesia is probably political uncertainty during the crisis period. There are great controversies regarding the policies suggested by the IMF to Indonesia in the post-crisis period. However the economic reform program in order to maintain the macroeconomic stability as well as institutional reform coupled with structural reforms has improved the financial situation in Indonesia. The unusual decline of the value of rupiah during the period of crisis can largely be attributed to the malfunctioning of the central monetary authority of Indonesia in managing her monetary liabilities. The nominal exchange rate was unnecessary high due to improper monetary policy Indonesia has discarded the quasi-fixed exchange rate. The growth of base money is to be controlled. In July 2005, Bank Indonesia has initiated a novel Inflation Targeting Framework, comprising the following elements:

(1) The bank of Indonesia would use the BI rate as a reference rate to control the money supply replacing the base money operational target,
(2) The monetary policymaking process would be forward looking
(3) communications strategy would be more clear and transparent.

Since 1970, the Bank of Indonesia has implemented three exchange rate systems:

- The fixed exchange rate (1970-1978),
- Managed floating exchange rate system (1978-1999)
- Free floating exchange rate system (August 14, 1999-2007). The implementation of the free-floating exchange rate system implies that the exchange rate of the Rupiah is determined solely by the market forces. In order to maintain a stable exchange rate, Bank Indonesia follows occasionally the sterilization policy in foreign exchange market, especially during an uneven variation of exchange rate.
These actions are intended in order to improve efficiency and authority in monetary policy so as to attain the eventual objective of price stability.

**Foreign Exchange Reserves: Some Arrangements**

There is an establishment of ASEAN Swap Arrangement (ASA) in which member countries will provide immediate foreign exchange in case of short-run liquidity problems. The membership of ASA has been extended to incorporate the 10 ASEAN countries. The maximum amount which is committed by the member countries are $150 million for Malaysia, Indonesia, Thailand and Singapore.

The Chiang Mai Initiative was set up on 6 May 2000 by the ASEAN Finance Ministers in order to facilitate the ASEAN+3 countries for providing financial assistance (short-term) the member countries in situations of financial crisis.

Bank of Negara Malaysia has made new bilateral swap arrangements (BSA) with the Bank of Japan. This is an additional agreement under the New Miyazawa Initiative (NMI). The BNM has recently made another agreement regarding BSA with the Bank of Korea (BOK) according to the Chiang Mai Initiative (CMI) of USD one billion.

The continuous growth of foreign exchange reserves of Indonesia have helped to repay short-term debts from IMF. Apart from this, there is a proposal of spending USD 4 billion on 30 new airbuses over the next five years. The four aircraft will be delivered in the year 2007 which amounts to USD 280 million spending. The plan is to serve the regional routes of Singapore, Malaysia, Hong Kong and Australia.\(^{12}\) The plan of the National Development Planning Agency (NDPA) is to reduce the foreign debts within 2006 to 2009, which amounts to USD 40 billion. Apart from paying foreign debts, reserves would be utilized for social purposes such as education, infrastructure and health.

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\(^{12}\) ANTARA News agency, October, 2007.
According to the State Minister, Paskah Suzetta, the funds would be available for national banks in order to finance development projects (e.g. harbors, airports etc). Italy and Germany have arranged a debt swap arrangements regarding the Yogyakarta and Central Java earthquake. The government would provide health, infrastructure and educational facilities that have been devastated by the earthquake.

According to the Reserve Bank of India Governor (RBI) Dr. Y. V. Reddy, “More recently there has been a resurgence in the debate on the formation of an Asian Monetary Fund and the adoption of an Asian Currency Unit. Concomitantly, reflecting the parallel developments under the ASEAN+3 initiative, there has been wider discussion and debate on the formation of a South Asian Economic Union and a South Asian Development Bank.”

Apart from these arrangements, there is a set up of Asian Bond fund Initiative. The basic purpose of this arrangement is to pool a part of foreign exchange reserves of a number of East Asian and Pacific countries. The Fund is invested in US dollar denominated bonds of major Asian countries. This initiative is taken to meet up the demand of medium and long-run finance needs of Asian countries.

**Concluding Remarks:**

Prior to the 1997 crisis, most of the countries in Asia followed a fixed exchange rate regimes (adjustable pegs). However, it was understood as a result of the crisis that such pegged exchange rates are subject to speculative attacks. In the post-crisis period the choice of exchange rate has become biased towards more flexible one. The prime objective has become to maintain financial stability, by inflationary targeting.

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14 Monetary Cooperation in Asia - Speech by Dr. Y.V. Reddy, Governor, Reserve Bank of India at the IMF-MAS High-Level Seminar on Asian Integration held on September 3, 2005 at Singapore.
The Bank of Thailand has adopted an explicit inflationary target regime. In Indonesia, the operational target is the base money. However, the bank has moved in the direction of targeting inflation, but not rigid like Thailand. The exchange rate of the Rupiah is also closely monitored. The base money is controlled through indirect monetary instruments like, Open Market Operations (OMO), discount rate setting and minimum reserve requirement setting. In Malaysia, Price stability and low inflation have been the prime importance of the Bank of Malaysia. Maintaining exchange rate stability (Primarily, bilateral exchange rate stability against dollar) is another important objective.

Regarding the exchange rate policies, the Bank of Thailand has moved from fixed to independently floating exchange rate. Indonesia has moved from managed to independent floating. However, Malaysia sticks to pegged exchange rate. However, the Bank of Thailand and Indonesia occasionally intervene in the foreign exchange market in order to control the erratic movements of the exchange rates.

The banks also intervene in the market occasionally to absorb the excess liquidity. The increasing flow of the net foreign assets has a cost of sterilization. Therefore some alternative uses of the forex reserves are also kept in mind. The monetary cooperation in East-Asia is increasing. There is an establishment of ASEAN Swap Arrangement (ASA) in which member countries will provide immediate foreign exchange in case of short-run liquidity problems. The membership of ASA has been extended to incorporate the 10 ASEAN countries.