Chapter 5

A Theoretical Analysis of Monetary Policy in The Last Two Decades: The Case of Indonesia

5.1 Overview of Economic and Monetary Developments in the Last Two Decades

Over the last two decades, monetary policy in Indonesia has significantly evolved. Basically, one of the key developments has been the move for financial liberalisation (or deregulation). Such a move initially took place in 1983, which included the removal of direct central bank control over the state bank's interest rates, over credit allocation by all banks and also the introduction of new market-oriented instruments of monetary control. Such a move was crucial, with the main objective being to move away from administrative control to market allocation of credit flows. Basically, the country's monetary policy had utilized credit ceilings as a monetary policy instrument before the financial reform of 1983 but later focused on reserve money as an intermediate target and later together with interest rate as a short-term target. In essence, prior to the 1997 currency crisis, the country had been subscribing to the **Mundell-Fleming** model with flexible exchange rate (although to a lesser degree as the country was of a managed float exchange regime) citing perfect capital mobility (restriction in capital flows were virtually eliminated by the early 1980s). However, after the currency crisis of 1997, the exchange rate became fully flexible thus, monetary policy then operated within the **Mundell-Fleming** model with flexible exchange rate citing perfect capital mobility.

Essentially, Indonesia's economy prior to the 1980s was characterised by the oil boom period, which stretches from the 1970s right up to 1982. However, in 1982, the Indonesian economy was affected by the world recession of the early 1980s. The situation worsened with oil prices declining (hence leading to decreases in net oil exports) thus leading to the Government to devalue its currency by 33.6% primarily to improve non-oil export and also pegging it to a basket of Indonesia's major trading partner in place of the U.S. dollar. A similar episode occurred in 1986 as plunging oil prices again forced the government to devalue its currency in 1986 by 45%. In both cases, the government resorted to exchange rate targeting, with the exchange rate itself acting as a policy instrument.

In any event, the financial reform of 1983 saw the elimination of administered interest rates and credit ceilings thus paving the way for an improvement in the efficiency of the banking sector. In principal, the move eliminated administered interest rates and credit ceilings thus leading to improvement in the efficiency of the banking system. Ironically, beginning 1984, the country began registering positive real interest rate. This was made possible by the increase in the nominal interest rate while the inflation rate was stabilized. From the theory of the **Fisher** equation, an increase in the nominal interest rates while having a constant and stable inflation rate (a proxy for expected inflation) will lead to an increase in the real interest rate.

By the late 1980s, the Indonesian economy was performing very well. Economic growth in 1989 and 1990 show positive growth of about 7.5% and 7.2% respectively although the growth slowed down in 1991 and 1992 amid tighter monetary policy circumstances. In the case of the Indonesian economy, it was still growing rapidly

until 1995, when policymakers began to concern about the potential threat of overheating. In dealing with this, the government initiated a tighter monetary policy that year. Inevitably, import growth slowed down while the consumer price inflation also moderated in 1996. However, the implementation of a large number of foreign and domestic investment projects maintained GDP growth at 7.8% in 1996. Inevitably, the foreign investment remained the driving force fueling the economy then.

In spite of a relatively strong economic performance in the first half of 1997, the Indonesia economy began to take a beating came July that year when the Rupiah began to depreciate as a result of the Thailand Baht's floating. By year-end, with the Rupiah's precipitous fall, the Indonesia economy ended the year with a GDP growth of only 4.6%. The Rupiah's depreciation inevitably led to inflation in the nation, especially towards the year-end period. The Government, in a move to mitigate the currency crisis and restore investor confidence, accepted the IMF's "rescue package" hence subsequently committing to undergo a series of reforms, most notably, the restructuring of their financial sector.

By 1998, Indonesia was already in a serious recession with the GDP contracting by a staggering 13.8% for that year. The banking and corporate sectors was hard hit, further leading to severe economic contraction which culminated to alarming poverty, increased unemployment and ultimately social unrest. Inflation rose by 78% by the end of 1998 while the instability of the local currency became highly critical. In response, the local authorities tightened its monetary policy to stabilize both problems. The tight monetary stance led to a virtually zero credit growth and was only

somewhat relaxed towards the end of the year as inflationary pressures eased slightly and the Rupiah began to appreciate.

Signs of recovery began to take place in 1999 as the country registered a 0.2% of GDP growth rate. The appreciation of the Rupiah and the tight monetary policy eased inflationary pressures. The Indonesian Bank Restructuring Agency (IBRA) launched the bank recapitalization program. In line with the economic reforms, the Government also embarked on reforming the public administration, with the main focus being on decentralization. A decline in inflation coupled with the appreciation of the Rupiah allowed the monetary authorities to soften the tight monetary stance. Hence, interest rates fell from a high of 70% (August 1998) to 12.5% (end of 1999). In any event, the authorities remained cautious to maintain price and exchange rate stability. In 2000, Indonesia managed to record a modest growth, with GDP rising by 4.8%. However, this modest growth in GDP led to only a small increase in the aggregate employment although consumer price inflation managed to achieve a considerable improvement compared to 1999.

In short, as far as the monetary policy frameworks in the last two decades are concerned, Indonesia has graduated from the approach of more direct control on monetary conditions (i.e. interest rate and credit ceilings) to a more indirect one (i.e. open market operations to target the monetary aggregates). The financial liberalisation of 1983 has certainly contributed to the increased emphasis on the latter. However, the shallow domestic capital markets had limited the use of open-market operations. For instance, the lack of government debt instruments have forced Bank Indonesia to issue its own debt instruments (Bank Indonesia Short-term Securities – SBIs). While

the main target of monetary policy has not been precisely streamlined, the anchor of monetary policy before the 1997 financial crisis had been rather skewed towards the developments surrounding the Rupiah exchange rate. However, the combination of several targets – interest rates, monetary and exchange rate had been difficult to maintain and administer, especially going into the 1990s when developments in the international financial markets involves the move towards greater capital mobility which ultimately led to greater volatility in monetary markets. As a result of the 1997 currency crisis, Bank Indonesia policy had been to target the monetary base to control the alarming rate of inflation then. Subsequently, with the crisis beginning to subside by 1999, the Bank Indonesia had unveiled a new policy target – "inflation targeting".

5.2 Monetary Targeting Versus Interest Rate Targeting

Indonesia's monetary policy had initially utilised credit ceilings as a monetary policy instrument before the financial reform of 1983 but later focused on reserve money as an intermediate target and later together with interest rate as a short-term target. During the 1997 currency crisis, monetary policy was geared towards a monetary base-targeting regime.

5.2.1 Interest Rate Management

Monetary policy before 1983 employed a control over the deposit and loan rates of the five state banks, which accounted for the three-quarters of the bank deposits. However, unlike Thailand, the private banks in Indonesia were free to set their own rates on both deposits and loans. Thus, the state deposit and loan rates were set below

their private counterparts. The allowable credit expansion was based on money supply estimates consistent with the expected growth and inflation and also on the balance of payments target. However, the credit ceiling and interest rate control, which were not imposed on non-bank financial institutions, led to the reduction of competitiveness of commercial banks. The accumulation of banks' excess reserves combined with the lack of competition in the banking system and control of interest rates soon led to capital outflows which threatens the balance-of payment. In an open economy system like Indonesia, the implications were serious, as there were no capital controls (inwards or outwards). In this respect, any interest rate differential will lead to capital flights. With the country adopting a managed float exchange rate regime, the monetary management became increasingly complicated. In this case, the monetary disequilibrium conditions are adjusted not only through the variation in prices and levels of activity but also through the changes in the balance of payments. Through the analysis of perfect capital mobility, any interest rate differential between the domestic and international rates, in example, should domestic interest rates fell below international ones, capital outflows will be heavily induced. Thus, in an open economy like Indonesia with a considerable flexible exchange rate, the short-run interest rate target should be taken into consideration to prevent capital outflow. In this respect, the Rupiah is freely convertible and there are only limited controls on capital or foreign exchange movements. Basically, the system mirrors the analysis of the **Mundell-Fleming** model with perfect capital mobility under a flexible exchange rate (although the degree of flexibility here is lesser). Thus in such a model, any differences in the expected rate of return between domestic and foreign assets will lead to investors putting all their wealth into the asset with better yields. Hence, the domestic interest rates are dependent on the international interest rates to the extent

that domestic interest rates should not generally fall below international rates, as this will induce massive capital outflows.

Besides reducing pressures on the balance of payment, the short-run interest rates were also crucial in enhancing economic activities. As part of the structural adjustment stemming from the financial liberalization period of the 1980s, interest rates and directs credit controls were lifted. Such a move was largely in the belief that "inflexible" interest rates may contribute to the impediment of efficient investment. In any case, the allocation of investments is likely to be distorted if there are limitations on lending that bias the selection of investments. Thus, the elimination on interest rate ceilings was seen as a move to invite more active involvement of the private sector in appraising yields and risks. In this respect, following the financial reform, Indonesia shifted the focus from targeting domestic credits (i.e. credit ceilings) to the targeting of reserve money as an intermediate target and interest rates as a short-run target. In the case of interest rates, during the period of 1985/86, the Government took measures to induce economic activities by reducing the rates on all monetary instruments. The 30-day Bank Indonesia's certificates (SBIs) cutoff rate was reduced twice from around 17% in November 1984 to finally 14% per annum in August 1985 while the 90-day SBI, from 17% to 15% in per annum in October 1985. In addition, the rediscount rate for the money market securities (SBPUs) was reduced several times from 20.5% in February 1985 to 18.5% in August 1985. The gradual reduction of these rates led to a reduction in the rupiah deposit rates thus also leading to a reduction in the lending rates.

The continued slow growth in the world economy coupled with uncertainty in the world oil market had an adverse impact on economic developments in Indonesia in 1987/88. To overcome speculative attacks on the Rupiah, Bank Indonesia pursued a tight monetary policy. This was done through the raising of the interest rates on Bank Indonesia certificates (SBIs) and discount facilities among others. Bank Indonesia continued to guide interest rates so as to encourage savings mobilization and investments. In trying to maintain price stability while alleviating pressures on the balance of payment, the money supply and interest rates were controlled by means of monetary instruments working through the open market operations. Thus, in order to safeguard the business environment and to maintain a sound balance-of-payment condition, in May and June 1987, Bank Indonesia took measures to increase the short-term interest rates. To speed up the adjustment process, in June 1987, the authorities ordered certain big state enterprises to withdraw their bank deposits in the banking system and utilized their funds to purchase SBIs. The withdrawal of state enterprises deposits had an immediate effect on interbank call money rates which eventually peak at 47% per annum by July 1987. Such a combination of measures succeeded in restraining the capital outflows as investors responded to the higher level of interest (domestic) rates hence reversing the direction of capital flows.

Although the relationship between the interest rate and output was not significantly strong, the openness of Indonesia's capital account had made the interest rate an important short-run target. In any event, interest rates in Indonesia in the 1980s (after the 1983 liberalization) were considered high by international standards, thus complicating the challenge of monetary policy in the country.

Although monetary base targeting was still the main monetary policy framework, interest rate targeting was later given more attention. This was especially more evident after the 1990s as the relationship between nominal income and money was becoming increasingly unclear as a result of continuous global financial innovations. Without totally abandoning the quantity targets, the authorities placed more attention to the interest rates initially, with the ultimate target of shifting the quantity (monetary aggregates) targeting to the price (interest rate) targeting. However, such a move was somewhat postponed in the wake of the currency crisis as the monetary authority continued its quantity targeting approach during the crisis.

The growing demand in investment following the rapid economic expansion starting from the late 1980s soon led to a current account deterioration. In this case, the government decided to restrain it through the tightening of monetary policy during the period of 1990/91. Such a move was also deemed necessary to curb inflationary pressures and dampened the speculative tendencies against the Rupiah. Hence the SBIs discount rate was increased thus squeezing the banks' liquidity. Subsequently, the average interest rate on interbank transactions, deposits and credits went up. By 1993/94, efforts to bring down the interest rates saw the continuing relaxation of bank reserves through the usage of open-market operations as reflected in the lowering of SBI discount rates. This move was considered successful as the SBI discount rates were at some stage quoted by banks as a reference in determining their deposit, interbank and lending rates.

As Indonesia were recipients of the IMF's "assistance package" during the currency crisis, one of the prescription given to Indonesia was to increase the interest rates.

Hence, the monetary tightening that was adopted in the wake of the currency crisis led to the interest rates to surge upwards significantly. Such pursuit of tight monetary policy led to the increase rates of SBIs (central bank), interbank, deposit and lending reaching their peaks in August 1998. Although the Indonesia government's monetary policy targeting were aimed at the money supply (monetary base targeting), the interest rates were inevitably affected as well. Theoretically, a monetary tightening (reduction in the money supply) will lead to an increase in the interest rate. In the case of Indonesia, the increase in the interest rate was crucial in stemming the alarming capital outflow and the heavily depreciated Rupiah. As the capital controls were absent in the economic system of Indonesia (hence taking the form of a **Mundell-Fleming** model assuming perfect capital mobility), the maintenance of interest rates above world rates will lead to unlimited capital inflows. With such mobility of funds heading back into the country, the depreciation of the Rupiah can be arrested.

In keeping track of the developments in the monetary aggregate targets, the interest rates were also a concern to the government of Indonesia. However, in 1999, the Bank Indonesia's monetary policies were implemented consistently using the supply of base money as the operational target. The domestic monetary conditions increasingly gained a more solid footing in 1999, with the well-managed monetary aggregates paving the way for more stability in the Rupiah exchange rate. Ultimately, the inflation rate began to ease remarkably. The stronger Rupiah provided room for interest rate cuts. In this respect, the easing of the interest rates were made possible with an expansionary monetary policy. The increase in the money supply would facilitate a fall in the interest rates. Such is of course the standard monetary policy mechanism, one which operates through the interest rate channel. The fall in the

interest rate reduces the cost of capital thus leading to an increase in real money balances. All these will lead to an increase in aggregate demand and output. The fact that the Bank Indonesia had reverted to a flexible exchange rates (from the previous regime of managed floating regime) in August 1997 further validates this theoretical explanation since under the Mundell-Fleming model (citing perfect capital mobility), monetary policy is effective in raising output under a flexible exchange rate. This is because under the flexible exchange rate regime, the central bank does not need to intervene in the market for foreign exchange thus are able to set money supply at will. In 1999 M1 (narrow money) and M2 (broad money) were respectively at 24.1 and 75.7 trillions of Rupiah but by the end of 1999, they registered 124.6 and 646.2 trillions of Rupiah respectively. This represents a significant expansionary monetary policy in terms of an increase in the money supply. Hence by December 1999, the weighted average interest rate on SBIs stood at 12.5% compared to its peak of 70.7% in August 1998 and 38.4% at the end of 1998. The drop in interest rates was crucial as the high interest rates were seen as an impediment to investment thus hindering economic activities.

However, in an attempt to control inflation and the further downward pressure on the exchange rate, Bank Indonesia initiated a tightening of monetary policy with the use of open-market operations. The reduction in the growth of money supply (the growth of M2 in 2000 was 10% compared to 14.5% in 1999) subsequently led to an increase in the SBIs interest rates, which went from a low of 10.88% in mid-May 2000 to 14.53% by the end of 2000. Hence interest rates as a short-run target is also seen as a vital aspect of the monetary policy framework. The higher interest rates were crucial

(especially in an open economy like Indonesia's) to reverse the capital outflows thus arresting the downward pressures, which were working against the Rupiah.

5.2.2 Money Supply Management

In the early 1980s (prior to 1983), the government had resorted to using direct methods of monetary control through the use of credit ceilings and interest rate controls which unfortunately had tended to affect capital flows, hence ineffective as far as monetary management is concerned. Hence following the enactment of the financial reform on 1 June 1983, the Bank Indonesia shifted the system of monetary control from direct restrictions on the development of broad money to a more indirect system based on reserve money management together with the interest rate as a short-run target. Such indirect monetary control methods were implemented to affect deposit money banks' reserve positions. Among them were open market operations, the discount window and the reserve requirements.

The open market operations in Indonesia are conducted through the buying and selling of Bank Indonesia's short-term securities, the SBIs and SBPUs. Bank Indonesia will sell the SBIs to banks and non-bank financial institutions in times when it wants to absorb reserves from the banking system while banks will rediscount the SBIs when Bank Indonesia moves to increase the reserves in the banking system. Hence, the change in the banks' reserves will affect the amount of funds extended for credits. The rediscount of central bank bills will increase banks' excess reserves and thus lead to credit expansion. Through the multiplier (money) process, this will increase the money supply. In the simple analysis in equation (2.1), the increase in the

money base will lead to an increase in the money supply. The increased in money supply will put downward pressures on their lending rates hence affecting the interbank rates as well. In this case of Indonesia, open market operations had been used and also proven in the ability to control reserve money in tandem with the immediate targets (commercial banks' reserves) and the existing money multiplier, and the other intermediate targets like narrow money and broad money.

Prior to the currency crisis, Indonesia's monetary policy was mainly skewed towards the targeting of the monetary base although the main nominal anchor had always been the nominal exchange rate. In this respect, the monetary base targeting had been effective in the 1980s and early 1990s but its relevance was significantly in doubt in periods thereafter as the changing monetary conditions had reduced the authorities' control of the base money growth. One of the problems had been that in certain periods, the base money was largely endogenous with respect to the output. In this respect, such a relationships is not impossible even though there have been much evidence supporting the conventional belief that changes in money should "lead" the changes in income. According to **Sims (1972),** it is also recognized that no degree of positive association between money and income can prove that the changes in money actually cause the changes in income. In any event, such developments only further complicates the avenues for monetary policy. During periods of "upswing" in the economy, the growth of base money was largely caused by aggregate demand as reflected by the growth in foreign borrowings and liquidation of the central bank bills. In this respect, such phenomena had been somewhat proved to be a constraint to monetary policy. Since if the base money was endogenous with respect to output, the money supply would have been endogenous to output. Since monetary economics has

always maintained that the change in the money stock should "lead" the change in income, such episode in Indonesia whereby the causality between the two is "reverse" had led to questions pertaining the validity of manipulating the money supply in hope of managing the national output (undermining the monetary targeting regime) for the country. Thus, the difficulty of controlling the quantity targets had led to the use of non-market instruments like reserve requirements and bank regulations. Besides, the relationship between nominal income and money had become increasingly unstable as a result of global financial innovation and liberalization. Thus, the effectiveness of monetary quantity targeting was constrained therefore leading to more attention being given to interest rate targeting. In addition, the intervention band under the managed exchange rate regime was widened several times to allow some flexibility and to ease the constraints of monetary policy. As the country was adhering to a managed exchange rate, widening the intervention band would lead to more autonomy in monetary management as the interest rate differential between the local rates and international ones (as a result of monetary expansion/contraction - which disturbs the exchange rate) are less constraining to the monetary authorities since the increased intervention band allows more room for monetary management without being too constrained by the maintenance of the exchange rate.

During the period of 1983 – 88, monetary targeting was effective as the money multiplier was stable. In this respect, given a stable money multiplier, the monetary authority could achieve the desired growth in money supply by manipulating the reserve money. However, after 1988, the money multiplier fluctuated due to the environment changes as a result of the monetary, banking and financial policy package taken in October 1988. This to a certain extent constrained the effectiveness

of the monetary targeting regime thus leading to some attention being given to interest rates targeting.

To prevent the worsening of the balance of payments problems, the Government pursued a tighter monetary policy thus resulting in a smaller rate of increase in the money supply. Domestic liquidity during 1982/83 rose by 20.6% reaching Rp12,247 billion. If the rate of the price increase was taken into account, money supply in real terms rose only by 5.4% compared to 16.6% in 1981/82. The tighter money supply growth were intended to facilitate an increase in the interest rates since this would improve the capital inflows thus improving the balance of payment via the improvement in the capital account.

Despite the devaluation in 1986, the money supply (M1) and domestic liquidity (M2) both recorded relatively low rates. The government's targeted money supply was reflected in the lower inflation rate. At the end of the 1986-87 period, M1 increased only by 9.8% as opposed to a 16.5% figure in the preceding year. This was necessary to improve the balance of payment by maintaining a low inflation. The inflation rate for the period of 1986-87 was 8.83% compared to the same period in 1985/86, which registered a figure of only 5.66%.

While a low inflation and external balance were preserved during the reporting year, monetary policy was at times, also designed to meet the increasing demand for liquidity stemming from the rapid growth in investment and production. Such was the scenario in the late 1980s and early 1990s. The implementation of monetary policy then was marked by a rapid growth in the money supply and a declining trend in

interest rates without inducing pressure on the inflation and balance of payment. During the reporting year of 1989/90, the money multiplier for M1 increased on average to 1.9 from 1.6 in 1988/89. This in part was due to the reduction in the reserve requirements, thus the stance of monetary policy was reflected in the growth of the various monetary aggregates. The M1 money supply grew from 18.9% in the reporting year of 1988/89 to 47.6% in 1989/90. However, with the rapid expansion of economic activities and the relatively lower international rates, monetary stance was restrained, with the government slowing down the growth of money supply by conducting open-market operations through transactions in Bank Indonesia certificates (SBIs) and money market securities (SBPUs) and phasing out Bank Indonesia liquidity credit gradually in accordance with the Policy Package of January 1990. The growth of M1 fell from 47.6% in the period of 1989/90 to 6.4% in 1990/91. However, it is worth noting that the monetary policy undertaken several years prior to 1990 contributed to the rapid growth in reserve money and money supply. Such was necessary as to meet the growing demand for liquidity to finance investment and production. Financial deregulation also contributed to this as in example, in 1989/90, the rapid increase in money supply was partly also influenced by a marked increase in offshore borrowing in March 1989. The reduction in reserve requirement also led to credit expansion while there was also the continued increase in the money multiplier. Efforts to curb inflation at the beginning of the reporting year were also supported by the rigorous implementation of the January 1990 policy package, especially the reduction of the Bank Indonesia's liquidity credits. The relatively high interest rates in the early 1990s coupled with the declining international rates led to increasing short-term capital inflows which in turn, had a very strong expansionary effect on the money supply. With more stable monetary and macroeconomic conditions, the

monetary authority had more opportunities to encourage domestic economic activity by lowering domestic rates and fostering greater credit expansion. Thus, there was a marked increase in the bank credit growth, thus resulting in a better balance between domestic and external sectors in affecting the money supply. Subsequently, this led to a stronger domestic aggregate demand thus leading to a higher economic growth.

With the currency crisis beginning in July 1997, the Rupiah was under intense downward pressure thus in their bid to check the slide, the Government, with the support of IMF, initiated a tightening of monetary policy to constrain the domestic liquidity so as to ease the pressure on the Rupiah. Theoretically, a tightening of the money supply will lead to an increase in the interest rates, which will entail a domestic rate higher than the rest of the world. Hence according to the **Mundell-Fleming** model (citing perfect capital mobility), there will be unlimited capital inflows and this increased demand for the Rupiah currency will ultimately lead to appreciative pressures to the Rupiah. In addition, the raising of the interest rates was crucial since inflation was rising and confidence of the market was also low. However, the implications of a high interest rates in the midst of a crisis was considered as counter-productive by many as the high interest rates would have further "crowd-out" private domestic demand thus worsening the "reccessionary gap". Such was the opinion of economists like **Sachs** (1998), who was skeptical that the move for higher interest rates would ease the reccession during the currency crisis.

In restoring monetary stability, Bank Indonesia pursued a tight monetary policy stance, which targets the monetary base in their ultimate aim to control inflation. In addition, the central bank's effort in preventing bank runs thus providing large-scale

liquidity in supporting troubled banks, soon led to a loss of monetary control (temporarily, at least), between late 1997 and early 1998. Between December 1997 to March 1998, both the broad money and base money grew by almost 30%. The conventional IS-LM and AD-AS analysis would show that the increase in money supply will lead to an increase in the price level. Continuous increased in the money supply could then, threaten to lead to a spiralling inflation. Thus, the Central Bank needed to absorb the excess liquidity in the banking system and in the broader economy. The Bank Indonesia, with the support of the IMF hence pursued a tight monetary policy stance with the base money as a target. However, the target was subjected to continuous adjustments in line with the real demand of the economy. To achieve the target, Bank Indonesia tried to narrow the avenues for further expansions of liquidity supports while enhancing the effectiveness of the open market operations. For example, in trying to prevent further expansions of liquidity support, Bank Indonesia imposed a high penalty in April 1998 on the discount window facility and commercial banks' negative balance at the central bank. In addition, in May 1998, Bank Indonesia placed ceilings on deposit rates and interbank rates guaranteed by the government to prevent banks from adopting imprudent measures, which could lead to self-reinforcing expansions of liquidity support.

In the reporting year 1998-99, Bank Indonesia's pursuit of a tight monetary policy stance with the base money as a target led to efforts to restraint liquidity through rupiah intervention. Essentially, rupiah intervention is an innovated instrument to help enhanced and improve the operations of monetary policy. It is used to support monetary restraint and for fine-tuning to reduce the interest rate volatility in the interbank money market. In any case, this instrument can served for both

expansionary and contractionary purposes. However, base money, especially in the first half of the reporting year sorted to move above the target as a result of bank runs which led to an upsurge of liquidity support. This persisted until June 1998. However, due to a number of constraints in the money market instruments such as the thin market for central bank bills, open market operations were not able to absorb all of the excess of liquidity in the economy. To achieve the quantitative target, attempts were made to improve them hence on 29 July 1998, Bank Indonesia changed the auction system of central bank bills whereby emphasis was shifted from interest rates to quantitative targets while participation in the auctions were broadened to allow greater competition among auction participants with hope that the rates would better reflect market sentiments. Eventually in August and September 1998, actual base money edged closer to the target level and eventually converging with the targeted level sometime in October and November that year. In this respect, the liquidity support for ailing banks were the main factors that led to the expansion of the base money. However, the closure of insolvent banks in March 1999 cushioned the base money expansion and this eventually led to a decline in the money base by end 1999. The tight monetary stance of controlling the growth of money supply inevitably led to the increase in the interest rates. The interest rates of the SBIs, interbank, deposit and lending rates all recorded their peak levels in August 1998. According to the IS-LM framework (refer to Figure 2.5) analysis using the quantity (monetary) targeting, a decrease in the money supply will lead to an increase in the interest rates since the LM curve will shift leftwards thus intersecting with the IS curve at a higher interest rates.

Basically in 1999, all measures of money supply (base money M1 and M2), were under relatively good control in 1999. In any case, a few months it was on target while there were a couple of months it was slightly above target. The decline in inflationary pressures and improving exchange rates gradually led to a softening of the monetary stance by 1999. The economic activity was also gradually moving towards positive growth. The only exception was that at the end of December 1999, the money base amounted to Rp101.8 trillion, well above the target pegged of Rp85 trillion.

At the beginning of the year 2000 Bank Indonesia established a target for the annual growth rate of base money at a rate of 8.3%. However, the year presented several obstacles to the effectiveness of the monetary policy. One of the problems was the increased in the public's demand to hold currency as a precautionary measure in the face of rising social and political uncertainty, which made monetary control much more difficult (since currency is an important portion of the monetary base). In the control of the money base, the Indonesian government conducted open market operations through the SBI (Certificate of Bank Indonesia) auction and through direct intervention in the Rupiah inter-bank money market. However, with the stabilisation of the macroeconomic conditions, the improvement in the money markets and also the introduction of more innovated monetary instruments have enhanced the predictability of money supply and demand thus suggesting that quantity targets for monetary policy would continue to be still effective. However, with the enactment of the new central bank legislation, monetary policy has moved towards the new regime of targeting the inflation rate.

5.3 Exchange Rate Management

Prior to the crisis, although many monetary policy objective was formulated, the anchor of the monetary policy during this period was clearly the nominal exchange rate, which was managed heavily within a relatively narrow band that depreciated at a fairly steady rate. The country has been subscribing to a managed floating exchange rate system since 1978 and this regime was maintained until August 1997. The band was in fact, gradually widened after 1992 and it reached 12% in May 1997 just before the crisis broke out.

The deregulation of the foreign exchange market since 1982 and other macroeconomics policies had stimulated domestic and foreign investment. Beginning that year, exporters were no longer needed to surrender foreign exchange proceeds to Bank Indonesia. Hence, they were allowed to hold their export proceeds or sell it to Bank Indonesia. This applies to importers as well, who could, just the same buy foreign exchange for importing purposes from Bank Indonesia. Brokerage firms were also established to develop the foreign exchange market.

During the period of 1978 – 82, there were major changes in the exchange rate system. The Rupiah was devalued primarily to improve non-oil export because Indonesia was suffering due to the fall in oil prices. Indonesia's exchange rate was in fact, on a crawling peg, offsetting the inflationary gap between home and abroad by sliding the Rupiah by a predictable few to several percent per year. However, during the period of 1970 - 78, the Rupiah was also fixed to the US dollar. Thus, even after adopting the managed float regime, the tendency was still to keep the Rupiah rate to

the US dollar rate. The exchange rate management as a policy instrument in economic stimulation was evident in the two devaluation episodes in the exchange rate, once in 1983 and the other taking place three years later (1986). In essence, the former saw devaluation in the Rupiah by 33% while in the latter, a 31% devaluation was exercised. In fact, the devaluation also happened prior to the 1980s, a situation whereby a 33% devaluation which was initiated in 1978. In essence, the devaluation in the exchange rate is a monetary policy instrument itself. A devaluation in the exchange rate can stimulate aggregate demand through the increased in the net exports. Referring to equation (2.6) and Fig. 2.9, a devaluation will lead to an increase in the value of ε thus shifting the horizontal line $\varepsilon = \varepsilon^*$ in Fig. 2.9 upwards hence intersecting the IS curve at a higher national output. The devaluation of the local currency will see an increase in the exchange rate ε since ε is defined as the number of units of domestic currency that is needed to buy one unit of foreign currency. If the local currency is devalued ε must increase. For example, Indonesia depreciated its currency in 1983 and in the following year, exports grew by 11%. Thus the GDP (in constant 1983 prices) for the year 1983 recorded a 7.82% growth compared to 4.78% a year earlier. Following this large discrete devaluation, Indonesia's foreign exchange rate regime was changed to a crawling peg system in order to reduce volatile expectations of large US dollar depreciation which had previously led to episodic large scale capital outflows **(Chant and Pangestu, 1992).** Theoretically, countries with inflation rates higher than their main trading partners often depreciate their currencies to prevent a severe loss of competitiveness. In this respect, inflation in Indonesia was considered high during the early 1980s, a period which saw the country recording rates of 9.80% and 8.40% in the period of 1981/82 and 1982/83 respectively.

In essence, a crawling peg system means that the exchange rate could be adjusted according to pre-set criteria as relative changes in the rate of inflation. The appreciation of the Rupiah against the Yen was the result of the depreciation of the Yen with respect to the dollar. In view of this, the Government devalued the Rupiah by 27.6% on March 1983, thus changing the rate to Rp970.00 per US1 dollar from Rp702.50 while maintaining the managed float exchange system. Such a move was seen as necessary to restore the competitiveness of the Indonesian economy. The devaluation in the Rupiah in the 1983 reform subsequently led to the sharp increased in the country's nominal interest rates compared to international ones. However, this implication only benefited the large corporations since they had excess to "cheap" offshore borrowing compared to smaller firms. This trend continues into the late 1980s as another round of Rupiah devaluation took place in 1986. The devaluation on September 12 1986 was initiated in view of the unexpected drop in oil prices, which led to severe pressures on the balance of payments, thus underlining the exchange rate's role as a monetary policy instrument.

The 1988 adjusted foreign borrowing rates were considerably lower than in Indonesia. From 1989 onwards, the exchange rate determined by the central bank was not the daily compulsory rate but rather, only an indicative rate, thus rendering the market to determine the exchange rate fluctuations. However, in determining the indicative rate the central bank still maintained the managed float by pegging it to a basket of currencies. However, after the currency crisis which began in July 1997, Indonesia decided to abandon the managed floating regime which had served them since 1978 thus embarking on August 14 1997, a free-floating exchange rate. Such was inevitable, as the pressure on the exchange rate and on foreign reserves early in the

crisis had forced the monetary authority to abandon the continued "crawling peg" regime. In any case, the Rupiah came under tremendous pressure after the country suffered massive capital outflows as a result of the currency crisis, which took off in July 1997. With the increasing demand for the US dollar, the Rupiah's value plummeted drastically. The Rupiah's alarming downward descend triggered many other problems in the monetary sector that led to the Bank Indonesia to widen the intervention band of the exchange rate. However, as the pressure on the Rupiah intensified, the intervention was lifted and the currency was subsequently placed under a free floating exchange rate regime on August 14, 1997. The implementation of the free floating regime means that the exchange rate of the Rupiah is left to the interaction between the demand and supply in the market.

With the adoption of a floating exchange rate regime, the limitations of monetary policy can be overcome, thus rendering the monetary authorities the ability to use monetary policy. As the Rupiah was under intense pressures, as soon as the exchange rate was floated, the Indonesia government adopted an extremely tight monetary policy by raising interest rates sharply in addition to also suspending several monetary instruments which bears an expansionary impact. This includes the auctioning of SBPUs, discount facility I (repo) and the purchase of SBIs on a repo basis. In any case, given the potential implications of an overly tight monetary policy (i.e. unemployment, financial system bankruptcies etc), letting the exchange rate to fluctuate is regarded as the best option. As **Goldstein** (1998) puts it, when market participants lose confidence in a currency and attach a high probability to further falls, It is difficult to induce them to hold the currency without higher interest rates.

The option of having a floating exchange rate is crucial if the maintenance of high interest rates were to work. This is because the interest rate differential between the local rates and international ones would have exerted pressures on the managed float that was previously subscribed to hence warranting the intervention of the authorities. In fact, just prior to the crisis, the intervention band was already widened once in the authorities' bid to use monetary policies to try to reverse the depreciation. However, it was still abandoned in the face of the continuing plunge of the Rupiah.

With the contagion effects sweeping through the ASEAN zone countries, even the widening of the intervention band in July 1997 from 8% to 12% failed to check the downwards pressures. The widening intervention band was meant to reduce the limitations on monetary policy, giving the authorities increased monetary autonomy. Inevitably, about a month later, the Indonesian government shifted from a managed float to a free floating regime. However, from October 1997, the Rupiah exchange rate was again under further pressure and eventually traded at a low point of Rp16,000 per US dollar at the end of January 1998. In trying to address the problem, Bank Indonesia lowered the statutory reserve requirement in hope of adding the supply of dollars in addition to also initiating a joint intervention effort with the Monetary Authority of Singapore and Bank of Japan. However, the lack of confidence in Indonesia's economy coupled with the high demand for US dollar either for speculative transaction or for external debt payments rendered the Bank Indonesia's policies ineffective. Although the Rupiah strengthen after the end of January 1998, the opposing views to the Government's plan to establish a Currency Board Arrangement to strengthen the rupiah at Rp7000 per dollar in February led to downward pressures on the Rupiah again.

The deterioration of economic fundamentals like rising inflation led the Rupiah to go to an all-time low of Rp16,500 per US dollar level in June 1998. The real effective exchange rate (REER) meanwhile depreciated by a staggering 67.8%. In addition, the social and political instability stemming from the civil unrest led to the further erosion of confidence in the Indonesian economy. However, between the period of July – October 1998, the Rupiah rebounded following the disbursements of the IMF loans and of aids from other international donors. The decline of the inflation rate and improved bank sentiments somewhat contributed to this appreciation. Basically, both factors led to lower capital outflows since the increased in the demand for Rupiah would have exerted upward pressures on the Rupiah. In theory, a reduction in the inflation rate will reduce the demand for imported goods since the consumers will switch back to local goods hence reducing the demand for foreign exchange. This will lead to an appreciation in the exchange rate. Besides, the tight monetary stance by the Bank Indonesia (using the base money in their targeting) subsequently led to the rise in the interest rates and this was needed to reverse the capital flow hence easing the downward pressures on the Rupiah. To eliminate the expansions of base money, Bank Indonesia exercised the policy instruments of open market operations. In June 1998, the M1 was tracking at Rp109.4 trillion but by October 1998, it registered a value of only 98.9 trillion Rupiah.

By 1999, the Rupiah had significantly appreciated and appeared more stable since the socio-political conditions had improved. In addition, the increased confidence paved way for a more stable Rupiah. However the trend reverse a year later with the exchange rate returning back to volatility ways again. The Rupiah weakened from an average of Rp7,274 per US dollar in January to Rp9,435 per US dollar in December

2000. This time, the pressure for depreciation came mainly from the demand-supply imbalance, excess liquidity in the money market, negative market sentiments plus an increase in rupiah transactions by non-residents. In their bid to counter the depreciation caused by the market's low confidence in the rupiah, Bank Indonesia began to implement monetary tightening through the open market operations to absorb the excess liquidity. The SBI (Central Bank of Indonesia) interest rates began to go up to reduce the pressures on the exchange rate. From the **Mundell-Fleming** model in Fig. 2.7, the reduction in money supply will lead to shift in the shift in the LM curve to the left thus leading to a fall in the exchange rate ε (or an appreciation in the local currency). The analysis here mirrors the **Mundell-Fleming** model under the flexible (floating) exchange rate with perfect capital mobility. The Bank Indonesia's move to reduce the growth of money supply (through the targeting of the monetary base) will cause the LM curve to shift to the left (Fig. 2.7) hence intersecting with the IS curve at a lower output and also a smaller value of the exchange rate, ε. The smaller value of the exchange rate ε means that the Rupiah would have appreciated as the number of units of Rupiah needed to purchase 1 unit of foreign currency is lower. The LM curve in this case would have been vertical, as the exchange rate does not affect the money demand.

5.4 After The Crisis: Inflation Targeting

The economic conditions in the post crisis period left very limited options for monetary policy. In addition, the exchange rate and inflation developments in the year 2000 left quite a dilemma for Bank Indonesia's monetary policy formulation. The rising inflation and falling currency indicated that the Bank should initiate a tighter

monetary policy but in doing so the Bank would have jeopardised any bank and corporate restructuring, as it would put a squeeze on the economy. Should these programs be disrupted then the public's confidence may again be shattered with the consequence that it may triggered off yet another round of depreciation-inflation spiral similar to the one experienced during the currency crisis.

Thus, in its bid to implement more monetary control, Bank Indonesia set an inflation target as the ultimate objective of monetary policy. The inflation target is based on several key assumptions, such as regarding economic growth and the exchange rate and also taking into consideration the impact of the political situation. In this new regime, the monetary authority is in fact, obliged to announce the targeted inflation rate to the public. In this respect, monetary policy will be geared towards achieving that rate over a particular time period.

The development of a new bank act (which was enacted in May 1999) conferring the Bank Indonesia the status of an independent state institution and the freedom from interference by the Government or any external parties is seen as a significant step towards the success of the new regime of inflation-targeting. As stipulated in the Act, the Bank Indonesia, being an independent state institution, is fully autonomous in formulating and implementing each of its tasks. With this Act, external parties are strictly prohibited to interfere with the Bank's implementation of tasks. In addition, in their quest to further assure its independence, the Act also conferred the Bank a special position in the civil structure of the Republic of Indonesia. With this, the Bank's position is also different from other Government Departments; that is, the Bank Indonesia exists outside of the Government. In this respect, the Governor of the

Bank is no longer a member of the Cabinet while there will be no member of the Government on Bank Indonesia's Board of Governors. In addition, the new law passed ensures that there is a high degree of independence and protection from political pressure for the Board of Governors as far as the appointment and terms of its senior management. One of the conditions in the appointment of Board members is that they shall not posses any direct/indirect interest in any business enterprise, in any other position concurrently or part of any political party. All these arrangements mirrors the set-up of other independently constituted central banks around the world. This suggests that the independence element (as far as the Board of members are concerned) is significant, hence justifying the move for a new monetary policy regime (of inflation targeting) which rely heavily on such element. Such developments are important if the country is to embark on a successful inflation-targeting. As argued by **Alesina (1988)**, the central bank independence is negatively correlated to inflation. In any event, the fact that the Bank's position is outside the domain of the Government indicates that there should be freedom for the Bank to choose the instruments of monetary policy. This is crucial as the Bank should not be targeting other economic indicators like for instance, the level of unemployment.

In addition, the move to a flexible exchange rate is seen as a critical step in the move towards a new monetary framework from the previously advocated system of combining the monetary policy targets of the monetary base, interest rates and exchange rates which served the country well during the 1980s. Ultimately, a new policy framework is seen as crucial in the post-crisis era to ensure that there is discipline for the economy, transparency and accountability of the central bank. In this respect, an inflation targeting policy appears to fit the bill.

However, in the case of Indonesia, the central bank legislation alone may not be enough as the government's intervention during the crisis had undermined the public's confidence. Thus, it may take some time in order to regain the public's trust and belief in the central bank's ability. In addition, the continuing volatility of the Rupiah may tempt the government to intervene thus contrasting its exchange rate regime. Besides, since a truly independent central bank must have the respect and prestige throughout the society, hence merely by giving a new legislation may not be enough to attain such status. Given the adverse effects on the policies embraced during the crisis, more time may be needed to improve the perception of the public.

As the current macroeconomic scenario has yet to be fully recovered, the Bank Indonesia is still likely to face a dilemma when it comes to the exchange rate stability against the price stability (inflation). Since the country's exchange rate is already floated, it is likely to be exposed to volatility and fluctuations. Any attempt to influence the exchange rate may undermine the inflation targets thus affecting its accountability and credibility.

Finally, inflation alone is a variable which is hard to control and thus an "explicit inflation targeting" may be difficult to administered if the "projections" and "targets" are not consistent due to the influence by other macroeconomic developments. In order to ensure that the move for an inflation-targeting regime is smoother, several other new legislative moves had also been initiated. They include the foreign exchange transaction law, the recent amendments to the banking law and the bank-restructuring program. However, with the many constraints that is still prevailing and

also the fact that inflation itself is a difficult variable to control, an "implicit" rather than "explicit" targeting appears to be the better policy framework facing Bank Indonesia. This should be the case until a stable political environment is restored and the financial and banking sector fully restructured.