Towards Inflation Targeting:

The Post-Crisis Monetary Policy Framework for Indonesia[1]

Miranda S. Goeltom – Bank Indonesia

This paper was originally presented on 13 March 2000, and therefore describes situations in the early days of implementing the inflation targeting framework in Indonesia when conditions were very different. To improve the relevance of the contents to today's conditions, some footnotes describe issues as they apply today. The paper also includes an appendix containing a press release issued by Bank Indonesia in July 2005 on changes for strengthening the implementation of the inflation targeting framework in Indonesia. This allows readers to compare the information in this paper with the current situation.

1. Introduction

Indonesia's experience during the 1997-1998 crisis offers valuable lessons on the proper role of the central bank in the economy and its status as a state institution. This experience, combined with the global trend in central bank reform towards focus on price stability, led to the promulgation of the new central bank law, Act No. 23 of 1999 concerning Bank Indonesia (BI).

The new law set out two key principles that would have consequences for the conduct of monetary policy. First, in contrast to the multiple policy objectives prescribed under the previous act, the new act clearly defined the single objective of monetary policy as the pursuit and maintenance of stability in the Rupiah. Second, the new act set out an important monetary policy framework for Bank Indonesia in achieving its objective of maintaining Rupiah stability. In conducting its monetary policy, BI was fully empowered to determine the target to be achieved (*goal* independence)[2] and to operate with freedom in implementing various monetary instruments to achieve this target (*instrument* independence). The act also protects Bank Indonesia's status as an independent state institution. The government and other parties are prohibited from any form of intervention in BI's tasks and BI is obliged to refuse or disregard any form of intervention by any parties.

[1] Manusctript of a book chapter. Goeltom, M.S. (2008), Essays in Macroeconomic Policy: The Indonesian Experience, Gramedia, Indonesia.

[2] This law was subsequently amended by Act No.3 of 2004, which removed goal independence from Bank Indonesia. Under the new law, the Government determines the inflation target after consultations with Bank Indonesia.

The new Bank Indonesia law required BI to set a target of inflation rate every year[3], and direct efforts towards achieving this target. Although the law did not explicitly require Bank Indonesia to use the inflation targeting framework, the characteristics of the monetary policy outlined in the law, such as announcement of the inflation target, single objective and instrument independence meant that monetary policy would fall within what was known as the inflation targeting framework (ITF). By definition, inflation targeting is a framework for monetary policy characterised by public announcement of official targets over one or more time horizons.[4]

Under this new framework, Bank Indonesia announced a 3 percent-5 percent inflation target for 2000[5]. The framework adopted at that point, however, was not a formal framework for inflation targeting as in some countries such as the UK and New Zealand. Rather, it was simply a monetary policy with an inflation target[6]. To achieve the ultimate target, Bank Indonesia still relied on base money as the operational target[7] while monitoring various aggregates and interest rates.

Furthermore, in contrast to a formal ITF in which an inflation target is set for a medium or long-term horizon and allows for monetary policy lag, the inflation target announced in January 2000 was for one year only[8]. This decision was taken because the central bank had lost much of its credibility and the likelihood that a tight target specified over such a short period would help restore credibility more rapidly, as long as the target could be reached. However, the design constrained Bank Indonesia's leeway in the short-term, especially for responses to supply shocks from increased oil prices and electricity billing rates and demand shocks from hikes in civil servant salaries.

This paper explores the monetary policy framework that would be adopted with the use of formal inflation targeting. Before discussing inflation targeting as the subsequent policy framework, section 2 takes a look at the frameworks historically employed in Indonesia. Section 3 discusses the theoretical framework for inflation targeting and caveats that monetary authorities would also have to consider. Section 4 addresses the preconditions and constraints on inflation targeting in Indonesia. Section 5 describes a preliminary design of the ITF for Indonesia. Section 6 summarises this paper and offers some conclusions.

[3] Following the promulgation of Act No. 3 of 2004, Bank Indonesia no longer sets the inflation target. See footnote 1.
[4] Bernanke, et al. (1999)
[5] According to press release of Macroeconomic Coordination Meeting issued by Ministry of Finance on March 17, 2006, the inflation targets for 2006-2008 consecutively are 8 percent, 6 percent, and 5 percent with a flexible range between -1 percent and +1 percent.
[6] Stone (2003) calls this kind of framework inflation targeting lite.
[7] Since July 2005 Bank Indonesia has employed the BI Rate as an operational target.
[8] Under the amended law, Government determines the path for the inflation target for 3 years in advance.

2. The Monetary Policy Framework in Indonesia: Past, Present and Future

2.1. Financial Repression and the Role of Credit and Interest Rate Controls

The monetary policy framework adopted in a country is closely related to the degree of financial development and the macroeconomic setting.[9] Before the 1983 deregulation in Indonesia in 1983, the system was characterised by financial repression. The essential policy ingredients were a credit ceiling policy and an administered interest rate regime. Bank lending was also allocated directly through selective credit control in which the government determined lending priorities for economic sectors, activities and beneficiaries.

The credit ceiling policy was imposed to restrict lending by each credit institution. In 1966, this policy was reintroduced as one element of the stabilisation package under the IMF standby arrangement. The objective was to control credit to domestic sectors, representing a domestic component of base money, and in so doing curb domestic inflation and tackle the balance of payments deficit. Credit policy was thus intended as a demand management policy to control inflation and restore equilibrium to the balance of payments (Nasution, 1982).

The oil boom of 1973 that stimulated domestic demand, filled government coffers and spurred consumer spending also triggered alarm over mounting inflation. That year, inflation reached 27 percent. To cool the overheating economy, the government launched a stabilisation package in April 1974 (Binhadi, 1995). Under that programme, Bank Indonesia provided liquidity credits to commercial banks and simultaneously imposed more complicated and stricter credit ceilings. Deposit rates at state-owned banks were also placed under central bank control. Liquidity credit from the central bank was made possible by oil export revenues. With regard to the selective credit policy, credit controls were imposed in greater detail regarding the allocation of credit to various sectors and enterprises.

Under this centralised financial strategy, the government would set targets for GDP, inflation and possible interest rate adjustments each year. Currency demand would be estimated from these targets and the targeted money supply was set at a level commensurate to currency demand. The money supply target was then used to set the total credit ceiling for the banking sector, assuming a stable relationship between domestic lending and the money supply. Allocations to individual banks were then negotiated on the basis of track records in loan disbursement and the bank plan for the forthcoming year.[10]

[9] For a comprehensive survey on financial development and monetary policy framework in Indonesia, see Cole and Slade (1996) and Binhadi (1995).
[10] See Nasution (1982).

The credit ceilings were criticised in two respects. First, in regard to the banks themselves, the credit ceilings were set equally for efficient and non-efficient banks. The ceilings also hampered bank efficiency by smothering competition for deposit funds. Second, in the operation of monetary policy, the credit ceilings were ineffective in controlling the growth of the money supply and thus inflation. McLeod (1993), for example, shows that the sustained positive balance of payments impact on base money was a major factor in feeding the growth of the domestic money supply. Similarly, Nasution (1982) also argued that the relationship between credit and money supply was unstable because international reserves, especially if not sterilised, were not under government control.

2.2. Financial Deregulation and The Role of Indirect Monetary Policy

On 1 June 1983, the government announced the removal of credit ceilings for all banks and lifting of most interest rate controls previously imposed on state banks. The financial deregulation was launched primarily in response to the decline in oil revenues that compelled the government to take action to promote domestic savings as a means of financing development. Furthermore, the removal of financial repression could improve the efficiency of financial sector and attract offshore deposits held by domestic residents in Hong Kong and Singapore. Finally, abolishing credit allocations was expected to improve efficiency in the use of capital. Under the deregulated financial environment, capital would be allocated to the best projects with maximum returns. Bank Indonesia also wound down the liquidity credit facility for banks, as this had removed the incentive for banks to engage actively in funds mobilisation. Nevertheless, liquidity credit from Bank Indonesia was still available for high priority loans.

Despite substantial changes in operation, the monetary policy goal was still the same. Policy was aimed at supporting the achievement of multiple macroeconomic objectives: low inflation, sustainable balance of payments and adequate economic growth.

After removing the credit and interest rate controls, Bank Indonesia adopted an indirect monetary policy. In practice, the monetary target was defined in terms of base money (M0). Monetary policy transmission was seen as originating from the monetary base (the operational target) through monetary aggregates (intermediate targets) to output and inflation (ultimate targets). This set of targets became an important but not exclusive guide in implementing monetary policy. Close watch was also kept on other economic variables, such as interest rates (especially interbank rates), exchange rates and bank credit expansion to monitor the M0 direction.

Under this policy, Bank Indonesia established an annual monetary programme based on a money demand function in which money was related to ultimate targets of output and inflation, as well as interest rates. The programme also set out the operational target (M0), intermediate targets (M1 and M2), and factors affecting the monetary base (M0) and M2 in line with the ultimate targets.

For day-to-day monetary control operations, Bank Indonesia introduced two new money market instruments: Bank Indonesia Certificates (SBIs) and money market securities (SBPUs) issued or endorsed by banks. SBIs were issued when the central bank wanted to squeeze liquidity, while SBPUs were purchased by the central bank to expand the available liquidity in the system. These instruments were necessary to indirect monetary operations since the government did not issue treasury bills as used in many countries for open market operations and repo. SBIs were not only used in monetary operations, but also in short-term management of liquidity for banks, companies and individuals.

At times, SBIs were also used as an alternative investment. When introduced, SBIs were auctioned under a 'cut-off-rate' (COR) system in which Bank Indonesia set the COR-SBI rates (prices) and the market determined the quantity of SBIs traded. In June 1993, the auction mechanism was replaced by the 'stop out rate' (SOR) to ensure that SBI rates would reflect market conditions. Under the SOR system, auction quantity was set by Bank Indonesia and market forces would determine the rate.

In the 1988 financial sector deregulation, the reserve requirement was reduced from 15 percent to 2 percent. This indirect instrument of monetary control remained dormant until December 1995, when the requirement was raised to 3 percent and subsequently to 5 percent in April 1997. These more recent requirements applied a more restrictive definition in which fund components in bank liabilities subject to the reserve requirement include demand deposits, time deposits, savings deposits and other liabilities irrespective of maturity. By comparison, the former provision extended only to liabilities with less than 24 months maturity. The reintroduction of the reserve requirement as an indirect instrument of monetary policy was intended to control bank credit in the light of the surge in capital inflows as explicitly reported in the Bank Indonesia Annual Report (1996, p.18): ' ..minimum reserve ... can be applied to curb growth in the money supply (M2), in particular bank credit'. The new provisions also reinforced the ability of monetary policy to influence bank balance sheets.

Bank Indonesia also made use of banking regulations to support monetary policy objectives, for example, by requiring foreign exchange banks to comply with a specified capital adequacy ratio (CAR). To improve bank prudence in credit expansion and promote

competitiveness, Bank Indonesia ordered foreign-exchange banks[11] to progressively increase their CAR to 12 percent within six years from September 1995. This regulation was also aimed at controlling credit expansion fuelled by heavy capital inflows.

Another money market instrument employed by Bank Indonesia was the foreign exchange swap facility. A swap is essentially a spot transaction concluded simultaneously with a forward transaction. While swaps are used in hedging to encourage foreign investment in Indonesia, Bank Indonesia would also buy foreign exchange reserves from banks during times of monetary expansion either in direct deals or through auction. When conditions called for monetary contraction, Bank Indonesia would sell foreign exchange reserves using swap transactions or by terminating the roll-over of matured swaps.

Monetary policy also operated through two types of discount window facility[12]. Discount Window I was designed to provide funds for daily liquidity and operated as an indirect monetary policy instrument. Discount Window II was a facility for assisting banks faced with long-term mismatch. In practice, these instruments proved ineffective. Banks appeared reluctant to avail the facilities due to the perception that use of lender of last resort instruments would be harmful to their reputation.

Despite the apparent effectiveness of the monetary policy framework in the 1980's and 1990's, when base money was used as the policy target, in the subsequent period this approach came under heavy challenges. Concerns arose over the difficulty for policy makers in controlling M0 growth,[13] a problem attributed to three important factors. *First*, the money markets for the instruments were relatively thin and fragmented. Most issued SBIs were held by state banks and the central bank experienced difficulty in controlling economic liquidity through the indirect use of these instruments. For example, in September 1984, interbank overnight rates soared to 90 percent per annum during a period of liquidity squeeze. On other occasions, to counteract speculation over impending devaluation in Q2/1987, the authorities took drastic measures to force banks to cut their reserves. State banks were required to repurchase SBPUs and state enterprises were ordered to use their deposits to buy SBIs. A similar situation occurred in early 1991. This massive transfer of funds from state-owned banks to the central bank became known as the 'Sumarlin Shock' after J.B. Sumarlin, the Minister of Finance at the time.

Second, at certain times, M0 is *endogenous* towards output. For example, during periods of upswing in the economy, M0 growth is driven mainly by aggregate demand

[11] Foreign exchange banks are defined as domestic and foreign banks licensed to engage in foreign exchange transactions.
[12] The two instruments were introduced in early 1984.
[13] Budiono (1994). 'Melihat kembali target moneter kita: M0, M1, atau M2?' (*Revisiting our monetary targets: M0, M1, or M2?*), unpublished.

reflected by growth in foreign borrowings and drawing of funds from SBIs. This does not necessarily rule out the possibility of complete control over M0 growth, but nevertheless such control would at times demand extremely high interest rate hikes to cool aggregate demand. In some cases, this difficulty has been eased by using non-market instruments, such as the reserve requirement, moral suasion and bank regulations.

Third was growing instability in the relationship between nominal income and money. Key to this was global financial innovations and the deregulation process that undermined the reliability of monetary policy applying quantity targets. Initially, Bank Indonesia responded with a rather pragmatic, eclectic approach. Without abandoning the quantity considerations, interest rate movements began to receive more attention. The intervention band in the managed floating rate regime was progressively widened to permit greater flexibility and lift some of the burden from monetary policy. However, this pragmatic approach was understood as a transitory measure pending the changeover to the new approach of targeting interest rates. However, before this second approach could be fully implemented, the financial crisis compelled the monetary authority to postpone its implementation and re-examine the quantity approach for reasons that are described below.

2.3. During and After the Crisis: The Shift towards Inflation Targeting

The economic and financial crisis that began in mid-1997 proved to be more severe, prolonged and difficult for Indonesia than for other countries in the region. Triggered by sharp depreciation of Rupiah, the crisis led to unprecedented economic collapse. In 1998, the economy shrank 13.68 percent while inflation soared. Banks and businesses failed in rapid succession, leaving behind large numbers of newly unemployed.

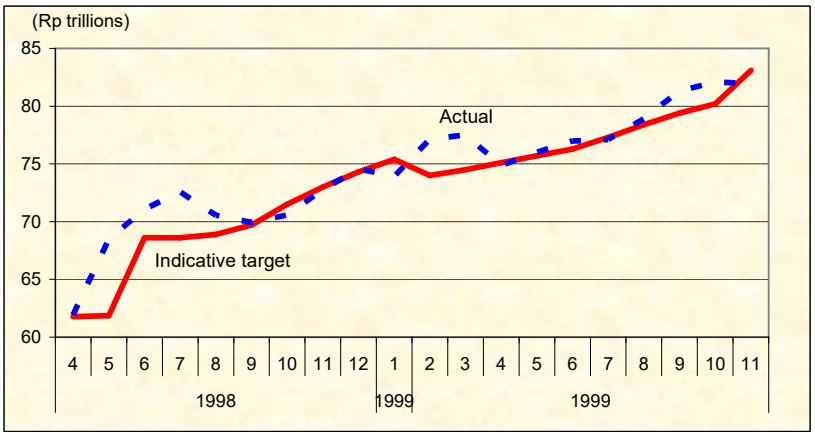
In the early days of the crisis, the government attempted to shore up the battered Rupiah by widening the intervention band and intervening on both the forward and spot markets. However, as efforts to defend the currency against overwhelming pressure became increasingly futile, the government finally allowed the exchange rate to float freely in mid-August 1997. Soon after floating the currency, the government instituted an extreme tight money policy through dramatic increases in interest rates sharply while also suspending activity in expansionary instruments, such as SBPUs, the discount facility I (repo) and SBI purchases under repo.

Soaring interest rates and steep depreciation dealt severe blows to banks and the real sector. Already in fragile condition, banks saw rapid deterioration in asset quality while many companies were forced to close. To prevent runs on banks and a collapse of the entire

banking system, Bank Indonesia extended massive liquidity support to commercial banks. From December 1997 to March 1998, broad money and base money both widened by around 30 percent. As the public quickly lost confidence in the Rupiah, a cycle of currency depreciation, soaring prices and expanding money supply threatened to spiral into hyperinflation. Bank Indonesia's principal objective was therefore to restore confidence in the national currency. Hyperinflation had to be prevented and inflation brought under control. It was also Bank Indonesia's position that stabilising prices would subsequently strengthen the value of Rupiah against other currencies.

To achieve these aims, monetary expansion first had to be halted. Bank Indonesia also needed to regain control over its own balance sheet. All sources of money creation by the central bank needed to be brought under control and excess liquidity reabsorbed from the banking system. With IMF support, Bank Indonesia, instituted a tight money policy using base money as the target. Quantitative targets were established at the level of the central bank balance sheet. Bank Indonesia acted to prevent any expansion in domestic assets—broadly speaking, net domestic assets would also be flat. To protect foreign assets, a floor was established for net international reserves (NIR).

To curb expansion in liquidity support, Bank Indonesia acted in April 1998 to impose a stiff penalty on the discount window facility and negative balances held by commercial banks at Bank Indonesia. In May 1998, Bank Indonesia announced a ceiling on deposit rates and interbank rate guaranteed by the government to prevent banks from adopting imprudent measures that would lead to self-reinforcing expansions of liquidity support.



Source: Bank Indonesia

Graph 1. Base Money Target and Actual Level

Because of various factors hampering the effectiveness of money market instruments, such as the thin market for SBIs, the excess liquidity in the economy could not be fully absorbed in open market operations (OMOs). The first attempts to achieve the quantitative

target involved improvements to the OMO mechanism. On 29 July 1998, Bank Indonesia changed the SBI auction system from emphasis on interest rate targets to quantitative targets. Auction participants, formerly restricted to primary dealers, were expanded to include bankers, money brokers, securities houses and the general public. These changes were intended to promote competition among auction participants, enabling the SBI rate to better reflect the interaction between demand and supply.

Another innovation in enhancing monetary policy operations was 'Rupiah intervention.' This was introduced as a means of monetary restraint and as a fine tune instrument to counteract interest rate volatility in the interbank money market. Rupiah intervention thus not only served as a contractionary instrument but also to promote monetary expansion. Attempts to control the monetary expansion from liquidity support originating in government expenditures were also supported by sterilisation in the foreign exchange market, which simultaneously increased the supply of foreign exchange, thereby helping to stabilise the domestic currency.

To sum up, Bank Indonesia adopted base money targeting after the crisis as a 'temporary' framework that sought primarily to absorb the monetary expansion originating from liquidity support, rather than for more fundamental considerations such as maintaining a stable relationship between inflation and base money (Iljas, 1999).

A groundbreaking change in the conduct of monetary policy in the aftermath of the crisis came with the new Bank Indonesia law prescribing full autonomy in policy formulation and implementation. The most important provision in the law, other than legally establishing Bank Indonesia as an autonomous state institution free from government intervention, established a single monetary policy objective of *maintaining the stability of Rupiah*. To achieve this objective, the law empowered Bank Indonesia to execute monetary policy by setting monetary targets—with due consideration of the inflation target—and managing monetary aggregates. In other words, Bank Indonesia was vested with both *goal independence*[14] and *instrument independence*. Another important change in the new law was the prohibition on central bank financing of government deficit spending and on purchasing government bonds on the primary market. However, the central bank was permitted to buy bonds on the secondary market for monetary policy purposes.

Against this background, the most suitable framework of future monetary policy in Indonesia would be inflation targeting. The two fundamental prerequisites for inflation

[14] See footnote 2.

targeting—the ability to conduct monetary policy with independence and the absence of conflict with other nominal targets or policy objectives—were now in place.

3. Inflation Targeting Framework (ITF)

For more than a decade, inflation targeting had become a fashionable choice of monetary policy framework. Pioneered by New Zealand, the ITF was quickly taken up by numerous industrialised countries, including the United Kingdom, Sweden, Finland, Spain and Australia. In the developing world, the inflation targeting framework came into use in Brazil, Chile, Israel and the Czech Republic. The ITF is now under consideration by Asian countries such as Thailand for use as the nominal anchor after abandonment of fixed exchange rate regimes of the past.

3.1. Reasons for Adopting Inflation Targeting

Inflation targeting is a monetary framework in which an inflation target is explicitly announced to the public and monetary management is directed in such a way to achieve the target over a time horizon. The following are key reasons for adopting inflation targeting.

First, academics and central bankers agreed that in the longer perspective, inflation would be the only macroeconomic variable that can be influenced by monetary policy, while impact on output is negligible. In other words, there was no 'trade-off' between unemployment and inflation in the long run. Empirical studies showed that over time, low inflation had a positive impact on economic growth. Intuitively, inflation uncertainties tended to push investors towards short-term, speculative financial investments and to hedge against inflation rather than invest in real long-term projects. High inflation also resulted in high premiums on domestic and international financial markets. For these reasons, the only monetary policy objective in the long-term was to pursue low inflation.

Second, inflation targeting is a device to maintain central bank credibility in inflation control. The credibility problem was first theoretically advanced by Kydland and Prescott (1977). The core of the argument is that a central bank that initially commits to combat inflation at a certain level is often tempted to renege its commitment by pursuing a monetary policy targeting short-term economic gains. The longer-term consequence is inflation above the promised level, contrary to the expectations of economic actors. In this way, the central bank loses credibility as an institution combating inflation and economic actors set their own inflation expectations at levels above those promised by the central bank. Over time, this produces higher inflation but with no change in the average level of economic growth. One

solution was to announce the inflation target explicitly and publicly, and to inform the public of the efforts by the central bank to achieve the announced target. This policy transparency would force the monetary authority to pursue a path that protects its reputation[i].

Third, inflation targeting provides a nominal anchor for monetary policy. Without such an anchor, monetary actions could be influenced by short-term interests possibly detrimental to long-term concerns. This anchor would bind monetary policy to a long-term objective—such as low inflation. Commonly used nominal anchors are monetary aggregate targets and the exchange rate. In the 1980's and 1990's, a growing awareness of the instability of monetary aggregates and inflation led some countries to abandon the use of monetary aggregates as an anchor. Central bankers then shifted towards an eclectic approach, employing a set of monetary and economic information. However, many economists and central bankers became concerned that an approach like this without a nominal anchor could give rise to credibility problems.

During this time, countries applying an exchange rate target as the nominal anchor began to abandon the system when domestic economic conditions forced them to relinquish the exchange rate target. One example involved countries in the EMU. The exchange rate target provides an anchor if the target is consistent with domestic economic conditions. However, in the case of currency misalignment, attempts to defend the exchange rate could harm long-term domestic economic interests. In September 1992, the UK pulled the sterling out of the ERM and quickly adopted inflation targeting as the nominal anchor. In Asia, some of the crisis-hit countries of 1997-1998 were also considering the use of inflation targeting as a new framework for monetary policy.

Lastly, inflation targeting would strengthen the accountability of monetary policy makers. Because the inflation target is announced publicly, the public can easily track the policy in operation, assess whether the target has been achieved and identify factors responsible for failure (e.g., supply, external factors, etc.).

3.2. Debate on Inflation Targeting

Despite the fundamental advantages of inflation targeting, the question remained: why do not all central banks adopt the framework? There are at least three main explanations for this.

3.2.1. Success without Inflation Targeting

Many countries, such as the US, succeeded in keeping inflation low alongside strong economic growth without employing inflation targeting. Furthermore, under US law, the Federal Reserve has multiple objectives: to promote employment, maintain price stability and

keep long-term interest rates at a moderate level. One explanation is that countries like this have achieved a high degree of credibility. The Federal Reserve, for example, is one of the most independent central banks in the world. The US was also fortunate enough to have two well-known 'inflation-averse' central bankers fitting the Rogoff conservative profile: Paul Volcker and Alan Greenspan. Alternatively, Clarida, Gali and Gertler (1999) argue that under Volcker and Greenspan, 'US monetary policy adopted a kind of *implicit* inflation targeting'. Similarly, the German Bundesbank, also a highly independent institution, had succeeded in inflation control despite retaining monetary targeting.

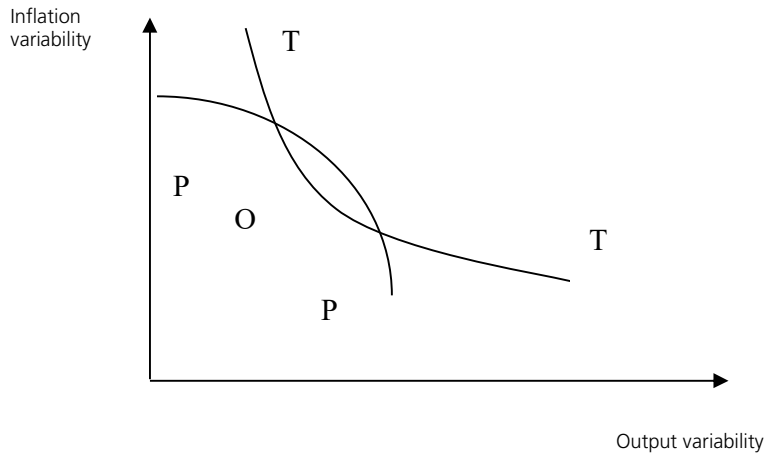
3.2.2. Flexibility of Inflation Targeting

A common argument against the use of inflation targeting is that it ignores output considerations. It may be well established that in the long run there is no trade-off between inflation and unemployment. Hence, targeting output with monetary policy would be wasteful in the long run. The interesting question concerned the short-term. How would monetary policy respond to short-term shocks? The answer was that it would depend on the nature of the shock. If the shock originates from *demand* factors, output and inflation tend to move together. In this case, monetary policy response should be clear with no dilemma posed by the policymaker. However, if the shock originates from *supply* factors, such as rising oil prices, output and inflation tend to shift in opposite directions. In this case, the central bank would have two options. If inflation was to be quickly brought back to the target level as soon as possible, the consequence would be negative impact on output variability. Alternatively, the cost-push inflation could be accommodated with the consequence that inflation would be reined in more slowly (longer time horizon for the target), with less negative impact on output.

The trade-off between *output variability* and *inflation variability* is illustrated in the Taylor curve (Graph 2). This trade-off is depicted by curve between points TT. Higher inflation variability, which means reducing the speed of disinflation, eases consequences in output variability. The optimum targeting is at point O, where the central bank preference is depicted by a curve akin to PP and the two ends of the trade-off curve are tangents.

In short, the ITF would still allow the central bank to respond to output. In practice, this is reflected in the reaction function or 'feedback rule' for central banks in which output is explicitly included, such as Taylor rule. Furthermore, the inflation targeting design—application of an underlying or core measure of inflation, a band/target range and the choice of policy horizon—determines the extent to which stabilisation can be achieved. However, the inflation targeting design also involves a trade-off between *flexibility* and *credibility*. The more flexible the inflation targeting design (e.g., using 'core' inflation, a wider band/target

range and a longer time horizon), the less credible the regime as a whole. On the other hand, a more rigid design may result in unnecessary output variability.[15]



Source: Debelle (1999)

Graph 2. The Taylor Curve

3.2.3. Is There an Optimum Level of Inflation?

Inflation targeting explicitly targets a certain level of inflation. The question then arises: what is an optimum inflation rate? Backstrom, Governor of the Sveriges Riksbank, claimed there is no evidence to show that the optimum level of inflation is 2 percent, not 1.5 percent or 2.5 percent. Many authors claimed that an optimum level would be zero inflation as long as there was a long-term trade off between inflation and unemployment. Others argued that the inflation target should be near zero but positive at around 1-3 percent (Fischer, 1993) to accommodate a possible upward bias in measuring inflation. One of criticisms of inflation targeting was that if inflation is set at, say, 1-2 percent, the real inflation could be negative (deflation). Deflation, if persistent and unanticipated, could put liquidity and solvency in the financial system at risk and lead to intensified economic contraction.

4. Inflation Targeting in Indonesia: Preconditions and Constraints

An inflation targeting framework would include a number of elements essential to its success. Most importantly, the overriding objective for the central bank would have to be inflation control and the central bank would have to possess the ability to pursue the inflation target. In other words, the central bank would be required to have instrument

[15] For a detailed discussion on inflation targeting and output stabilisation, see Debelle (1999).

independence. This basic precondition has now been met in Indonesia. As explained above, the new law promulgated in 1999 establishes both goal independence[16] and instrument independence for Bank Indonesia.

The new law also stated that the *single* objective of the central bank was to maintain the stability of the Rupiah. Although this objective is subject to interpretation of *both* price stability and exchange rate stability, the adoption of the floating exchange regime in 1997 should ensure the absence of policy conflict between an exchange rate target and the inflation target, with monetary policy focused on achievement of inflation target.

Lessons from countries with multiple anchors—such as inflation targeting in combination with a nominal exchange rate target like the crawling band in Israel and Chile—suggest that such arrangements lead to potential conflict and dilemmas that may undermine policy credibility.[17] For example, high interest rates intended to curb inflation can stimulate heavy capital inflows that in turn push the value of the domestic currency beyond the lower band. The quasi-fiscal costs of attempts to sterilise the flows can sometimes be prohibitive. When multiple targets are adopted, it is therefore necessary to order the priority of targets with the inflation target placed at the top.

It is also necessary to point out the possible short-term conflict of interest between the inflation targeting and financial stability. For example, a high interest rate to combat inflation could place banks in jeopardy, especially in a fragile banking system. For this reason, the first task after the near collapse of during the crisis was the strengthening of Indonesia's financial system. In the long run, however, price stability will actually strengthen financial stability. Lessons from financial crises in many countries suggest that crises are often linked to instability of inflation and interest rates. Volatile interest rates create large changes in bank asset values that make financial crises more likely to occur.

The second precondition, a more technical one, is that because inflation targeting uses the inflation forecast as the 'intermediate target', the central bank must have accurate knowledge of the transmission mechanism through which monetary actions influence the inflation. The central bank should know exactly when to react to future inflationary pressure, hence the need to estimate the time lag of monetary policy. A reaction function in forward looking monetary policy should be used as the 'benchmark' policy. In Bank Indonesia, many attempts were made to build an understanding of how monetary policy works, the time lag and possible reaction functions or policy rules. These technical aspects will be elaborated in the next section.

[16] See footnote 2.
[17] See Leiderman (forthcoming).

5. ITF for Indonesia: A Preliminary Design [18]

As prescribed in article 10 of the central bank law, Bank Indonesia is authorised to set monetary targets that take account of the inflation target. Here, the inflation to be targeted under the monetary policy has to be clearly defined. This is particularly important since monetary policy is not the only factor that determines inflation. Supply shocks, such as poor (or abundant) harvests, distribution bottlenecks (or the opposite) and international inflation can be significant factors influencing domestic inflation. For this reason, the relevant factor in setting the target is so-called core inflation or underlying inflation. This inflation rate excludes the impact of non-monetary policy variables. The central bank law confirmed the use of core inflation in the elucidation to article 10, in which the inflation target is be determined primarily with reference to price movements affected *directly* by monetary policy.

5.1. Defining the Inflation Target

There are several practical issues that need to be explored in determining the appropriate inflation target: (1) predictability of inflation, (2) measures of the inflation target (headline vs. core inflation), (3) (optimum) level of inflation, and (4) time horizon for monetary policy to affect inflation. In recent times, various attempts have been made to define an appropriate inflation target for Indonesia. In general, results indicate that definition of an appropriate inflation target is possible.

5.1.1. Predictability of Inflation

A predictable inflation rate is one of the necessary conditions for implementing the ITF. In this regard, the ITF heavily relies on sound inflation forecasting, since the forecast will determine the policy actions necessary to keep inflation on track with the target. Studies were conducted on the inflation cycle, the diffusion index for the CPI, inflation leading indicator and economic leading indicators to determine the direction of inflation, while partial and simultaneous models have been developed to forecast the rate of inflation. These studies affirmed the predictability of inflation in Indonesia.[19]

The inflation cycle serves as a means for capturing the cyclical swing in order to provide a rough forecast of when "the peak" or "trough" of inflation will occur. The

[18] In July 2005, Bank Indonesia launched a new monetary policy framework known as the Inflation Targeting Framework (ITF). The ITF consists of **four basic elements** as follows: (1) use of the BI rate as a reference rate in monetary control in replacement of the base money operational target, (2) forward looking monetary policymaking process, (3) more transparent communications strategy, and (4) strengthening of policy coordination with the Government. These measures are aimed at improving effectiveness and governance in monetary policy in order to achieve the ultimate goal of price stability in support of sustainable economic growth and public prosperity. *See appendix for a complete press release*.
[19] See Inflation Targeting Team (1999).

diffusion index of CPI can also guide information on when the peak or trough will occur. This information is important for inflation forecasting.

The inflation leading indicator is an index of components designed to indicate the direction in which inflation will proceed. These components consist of real M2, real credit, interest rates, stock price index, etc. The information from the inflation leading indicator can only project the direction of future inflation, not magnitude. In regard to inflation forecasting, this information confirms forecasting results.

Information obtained from leading economic indicators points to the direction of future economic activity, especially from the demand side. Because inflation is influenced by demand pressures, the leading economic indicators can provide useful input for inflation forecasting.

5.1.2. Which Measure of Inflation?

The BI inflation target is based on the CPI, as implemented in countries that apply explicit inflation targeting. The selection of the CPI as a central bank target is supported by theoretical as well as practical reasons. The advantage of using the CPI is, among others, lies in its usefulness in precisely measuring the level of social welfare, because the CPI measures the cost of living for consumers. Statistical offices in other countries consistently devote the most resources to obtaining reliable data on the CPI, rather than other price indices. CPI measurements are thus always of better quality and available on a timely basis.

Nevertheless CPI-based inflation in Indonesia is very much characterised by extreme price movements for some goods or services, usually because of supply shocks associated with bumper harvests or crop failures. Because the goods involved—usually in the foodstuffs category—account for a greater share in the CPI, they also have significant influence on the rate of inflation. Because inflation is also influenced by shocks of this kind, it became necessary to divide CPI inflation into two parts: *core* inflation and *noise* inflation. In recent years, Bank Indonesia has developed and implemented the appropriate methodology to measure core inflation.

The issue of choosing between *headline* and *core* inflation as the target placed Bank Indonesia in a dilemma. A headline inflation target, such as the case of most inflation targeting countries, would be easily understood by the majority of the public. The characteristics of this kind of inflation, however, would make it difficult to use as a target of monetary policy. Numerous price movements are associated with supply shocks or are unrelated to monetary policy. Accordingly, it would have been too risky to use headline inflation as a target. For this reason, Bank Indonesia did not use headline inflation as a

reference in determining monetary policy. Instead, BI uses core inflation, a variable that monetary policy is understood to control[20].

The use of core inflation as the operational target is based on the premise of the suitability of core inflation as an indicator in formulating monetary policy. For example, when a demand shock triggers high inflation, the central bank will respond by tightening the money supply, in so doing curbing inflation. This policy can also readjust economic growth to a level commensurate to economic capacity. Conversely, when inflation results from supply shocks, such as soaring food prices due to seasonal factors or a poor harvest, a tight money policy may simply exacerbate price increases as well as depress economic growth. In this case, central bank should respond by relaxing economic liquidity, which is necessary to stimulate supply.

The use of core inflation, on the other hand, may raise questions about fairness to the public. Most people are less concerned about core inflation, but they do care about headline inflation. Furthermore, because BI is vested with independence in setting the inflation target, when core inflation is calculated by the same institution this may lead to credibility problems. This task should therefore be entrusted to a separate body, such as the Central Statistics Agency (BPS)[21].

Core inflation can be measured using a number of methods, including: *adjustment by exclusion, specific adjustment* and *statistical measures*. Most countries use the exclusion method. However, tests conducted to measure underlying inflation in Indonesia suggest that the most reliable method is the use of statistical measures to trim extreme price changes in the CPI basket.

Tests on CPI inflation in the 1990-1997 period show that a 20 percent trim on 662 commodities in CPI basket produced the smallest absolute deviation from mean in a long-term inflation trend. However, since the long-term inflation trend during the observation period lay on the 77th percentile of the frequency distribution of price changes in the CPI basket, the trimming becomes asymmetrical. Most of the trimmings were made to commodities experiencing the steepest decline in prices, while the remainder were made to commodities experiencing the highest price increases.

Technically, measurement of underlying inflation is conducted as follows:

(1). Measure price changes for every item in the CPI basket (662 commodities) and sort from highest to lowest by magnitude of price changes.

[20] Under Act No. 3 of 2004, Bank Indonesia uses headline (CPI) inflation as target of its monetary policy.
[21] Since 2004, BPS has released monthly core inflation figures together with headline inflation.

(2). Exclude supply side distortions by trimming as much as 20 percent from commodities in the CPJ basket (132 commodities), consisting of 102 commodities with the steepest price declines and 30 commodities with highest price increases.

(3). Using the results of the trimming, each price change is multiplied by the weighting for each commodity to determine the respective contribution to underlying inflation. A zero weighting is assigned to each of the 132 trimmed commodities. The sum is then calculated for all contributions ($\Sigma p_i w_i$).

(4). Compute underlying inflation using the following formula: $(\Sigma p_i w_i)/ (\Sigma w_i)$.

5.1.3. The Inflation Target Level

The new law requires BI to make information transparently available to the public in the media at the beginning of the year on matters including policy planning and the inflation target. In the policy statement for January 2000, the Board of Governor meeting set the inflation target for 2000 at 3 percent-5 percent. This target was essentially 'core' inflation, since it did not include possible increases in prices resulting from government actions to raise fuel prices, electricity billing rates, civil servant salaries and import duties on sugar and rice.

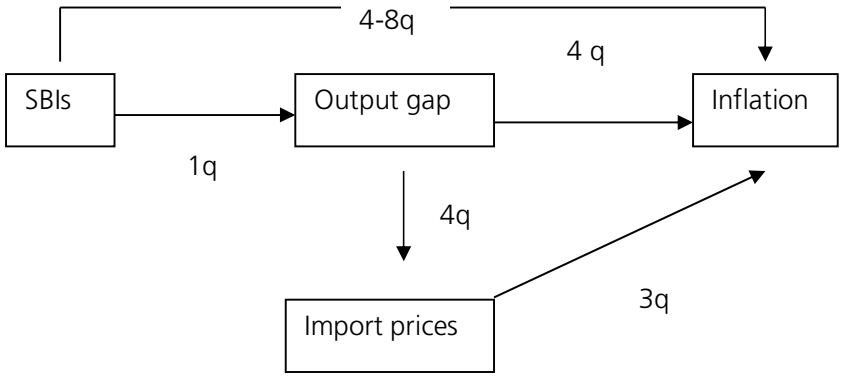
There is no specific rule on how low the inflation target should be. The terminology of price stability may refer to zero inflation as the target. However, imperfections in inflation calculation, known as measurement bias, mean that the inflation target for most inflation targeting countries is slightly above zero. Moreover, the inflation target is usually set as a range to allow greater flexibility. As for developing countries, where noise inflation from supply shocks occurs more frequently than in developed countries, the inflation target is usually set at a higher level.

A Bank Indonesia study[22] based on historical data of disaggregated inflation, shows that below 4 percent inflation produces a low standard deviation. Moreover, a Monte Carlo simulation to obtain the lowest achievable mean based on historical constraints results in an inflation figure of between 4 percent and 6 percent. An IS-LM simulation also shows that a level of 4 percent to 6 percent results in minimum output and interest rate fluctuation. Finally, a simulation of Taylor type policy rules produces the same level of inflation capable of minimising mean absolute error of policy rule.

5.1.4. Time Horizon

In the ITF, monetary policy lag is crucial to defining the policy framework. A study in Bank Indonesia based on several methods indicates that the policy lag lasts from 4 to 8

quarters. Graphical analysis indicates a lag of 7 quarters for policy instruments to produce an effect on inflation, while the IS and Phillip Curve models indicate a range of 4 to 6 quarters. In addition, the structural vector autoregression model estimates the policy lag at between 4 to 8 quarters (see Graph 3).



Source: Bank Indonesia

Graph 3. Monetary Policy Lags In Influencing Inflation

5.2. Monetary Operating Procedure

In the ITF, monetary policy seeks to bring aggregate demand into line with economic capacity from the supply side. This enables economic growth to move forward on a sustainable path. The logic of this argument makes inflation targeting a widely accepted choice for monetary policy. The problem, however, arises at the level of monetary policy implementation. Monetary policy has very imperfect control over inflation. As Milton Friedman put it, "monetary policy works only in long and variable lags." Until only recently, the channels through which a monetary policy instrument influences the inflation rate, known as transmission mechanism, were still unclear. Some economists named it a black box.[23] This mechanism is rather complex and the relationship between the variables involved is unstable. The design of a monetary policy framework in this context must take account of uncertainties.

Because of the considerable lag in monetary policy, pre-emptive setting of the policy framework is essential to targeting future inflation. Under these circumstances, current monetary policy should aim for achieving the targeted inflation. Results from studies of policy lag, as noted earlier, can be used to establish the time horizon for a pre-emptive monetary policy.

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[22] See Bank Indonesia (1999a)

[23] See for example papers on Symposium on Monetary Transmission Mechanism in Journal of Economic Perspective (1995). For discussion on monetary transmission mechanism in Indonesia, see Boediono (1998), Sarwono and Warjiyo (1998), Agung (1998, 2000).

As noted earlier, the issue of switching from conventional monetary targeting to a new monetary policy paradigm dates back to before the crisis. With the temporary loss of monetary control during the crisis largely resolved, serious consideration is warranted for use of interest rates as monetary operating target. As a recent study at Bank Indonesia shows, inflation targeting would be more effective by using an interest rate as the operational target.[24]

The use of a type of Taylor rules as a *benchmark* for monetary policy reaction functions was also considered. The uncertainties inherent in the transmission mechanism, however, would still allow room for discretionary policies. Under this new paradigm, some implementation issues had to be worked out, such as what interest rate should be used as an instrument and how to conduct open market operations, how to deal with exchange rate shocks and so on.

5.3. Institutional Concerns

In adopting the ITF, careful attention would be needed to institutional aspects such as the role of central bank and other institutions, public communications, transparency and accountability.

The new central bank law established a very strong institutional framework for implementing the ITF. The most important aspects of this concern independence for setting the inflation target (*goal* independence) and in use of various monetary instruments (*instrument* independence). One may argue that the goal independence for a central bank is superfluous.[25] But Schmidt-Hebbel (1999) argues that goal independence is essential in converging/emerging economies prone to fiscal dynamic inconsistencies. A middle way was perhaps the 'cooperative approach' as implemented in Czech Republic. In this approach, the *long run* inflation target is determined by an agreement between government and central bank. The reason of using this approach is that a target with broad agreement from a society may result in price stability, since the economic actors would use the inflation target in their decision making.

Concerning the government role, Bank Indonesia is obliged to refuse or disregard any form of intervention in the performance of its tasks. To make monetary policy work effectively, Bank Indonesia's lending to banks—in the context of the lender of the last resort function—is restricted to a maximum term of 90 days. The requirement for high quality, liquid collateral narrows the availability of this credit even further. Bank Indonesia is

[24] See Bank Indonesia (1999b).

prohibited from lending to the government, and this ban also extends to the purchase of government securities on the primary market. Moreover, lending to private borrowers, such as agricultural credit, must be transferred to state owned enterprises.

Transparency and accountability are key aspects in inflation targeting and the new law requires BI to make information transparently available to the public. The inflation target is to be announced at the beginning of the year, and an evaluation of monetary policy is to be presented to Parliament and made public at least every quarter. With the single target for monetary policy, accountability becomes clearer, as performance will be easier to judge.

6. Conclusion

This paper has explored the development of the monetary policy framework in Indonesia. In the light of the new central bank law granting Bank Indonesia both goal and instrument independence and establishing a single objective of price stability, the most suitable framework for the future was arguably inflation targeting. Furthermore, the abandonment of the crawling band exchange rate called for an alternative nominal anchor in conducting monetary policy. The inflation target was considered an appropriate substitute.

Issues in several areas needed to be addressed for effective implementation of inflation targeting. In the very short-term, the first priority was bank restructuring. In the immediate aftermath of the crisis, the flush liquidity in banking system caused by reluctance to lend (the 'credit crunch') led to difficulties in implementing monetary policy.

On the technical front, since inflation targeting is forward looking by nature, it became necessary to develop a forward looking monetary reaction function or a feedback rule such as Taylor-type rule. A small quarterly macroeconomic model was developed as a forecasting tool and simulation of monetary policy impact on the economy in short and medium-term.

To address transparency issues, Bank Indonesia maintains ongoing communication with the public through inflation reports and frequent speeches by Board of Governors and other Bank Indonesia officers. These are essential to build public understanding of monetary policy and guide public expectations of inflation towards the target.

[25] See, for example, Blinder (1998)

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APPENDIX

Bank Indonesia: New and Enhanced Monetary Policy Measures Under the Inflation Targeting Framework

In July 2005, Bank Indonesia launched a new and enhanced monetary policy mechanism with the Inflation Targeting Framework (ITF), which encompasses four main

areas: the use of the new BI Rate as the operational interest rate target, enhanced decision making process, more transparent communication strategy and strengthened policy coordination with Government. The move was intended to strengthen effectiveness and good governance in monetary policy making to achieve the price stability needed to support sustainable economic growth and improve social welfare.

Reasons for the Inflation Targeting Framework

The ITF is a monetary policy framework in which an explicit inflation target is announced and the monetary policy is transparently and consistently aimed toward achieving this target. Despite variants in definitions, there is consensus on the main characteristics of this monetary policy regime: an explicit inflation target that ties the central bank to the primary objective of price stability, the lack of fiscal dominance and the absence of competing nominal objectives and a monetary institution that enjoys instrument independence and operates with public transparency[26].

The monetary policy regime under the ITF operates under four basic principles:

(i) The inflation target is the overriding objective for the nominal anchor of monetary policy,

(ii) A forward looking strategy in which current monetary policy response is directed toward achieving the medium-term inflation target,

(iii) The complete and thorough analysis, forecast, and policy rules that are employed in setting monetary policy response (constrained discretion), and

(iv) Good policy governance for enhancing transparency, consistency, and accountability.

Despite variability in performances among countries in which inflation targeting regimes are in operation[27], the ITF is notably successful in delivering the following benefits[28]:

(i) Effective reduction in inflation,

(ii) Clearer, more focused monetary policy,

(iii) Mutually reinforcing communication, transparency and accountability.

(iv) Guides inflation expectations and deals more effectively with inflation shocks,

(v) Reduces output volatility,

[26] Loayza, N. and R. Soto (2002), *Inflation Targeting: Design, Performance and Challenges,* Santiago, Chile: Central Bank of Chile.
[27] Carare, A. and M.R. Stone (2003). "Inflation Targeting Regimes." IMF Working Paper No. WP/03/9, January.
[28] Mishkin, F.S. and K. Schmidt-Hebbel (2001), "One Decade Of Inflation Targeting In The World: What Do We Know And What Do We Need To Know?", Central Bank of Chile Working Paper No. 101, July

(vi) Tested favourably against adverse shocks.

(vii) Flexibility in monetary policy for accommodating temporary inflation shocks without affecting medium-term achievement of the target

(viii) Reinforces central bank independence.

Interim Framework: Inflation Targeting Lite

In 2000, following the enactment of the new central bank law, Bank Indonesia began announcing an explicit inflation target as the overriding objective of monetary policy. The inflation target reflected a gradual disinflation process towards a long-term inflation target competitive with other emerging economies.

Active measures by Bank Indonesia to support the successful implementation of the ITF included the following:

(i) Design of statistics, research and economic models to support improved analysis and forecasts of inflation and other economic variables, the monetary policy transmission mechanism and policy response.

(ii) Regular board meetings as an integral part of the monetary policy decision making process.

(iii) Development of a communications strategy to enhance transparency and accountability of monetary policy.

Nonetheless, the economic and financial restructuring process following the crisis prevented Bank Indonesia necessitated a postponement of the more formal launching of the ITF. Base money continued in use as the operational target for monetary operations until July 2005. Apart from the role of base money as a performance indicator under the IMF Program, the past use of base money was necessary to absorb excess liquidity generated by the resolution of the banking crisis and uncertainty in the monetary transmission mechanism. The framework practiced until July 2005 is often referred to as Inflation Targeting Lite[29].

With the improvement in economic conditions and the banking system, the use of base money as the operational target became no longer compatible for monetary operations under the ITF. First, there was growing instability in the relationship between base money and inflation and economic growth, with a reverse causality coming into play due to unstable money demand and uncertainty of money multiplier and money velocity behaviours. Second, the clearer signalling of monetary policy to the market and public had been hindered not only

by difficulty in understanding base money, but also perceptions of dual nominal anchors in the base money target and inflation target. Third, monetary policy responses tended to be backward looking and more difficult to implement. Fourth, base money was more difficult to control due to dominant role and unpredictable behaviour of currency demand in Indonesia.

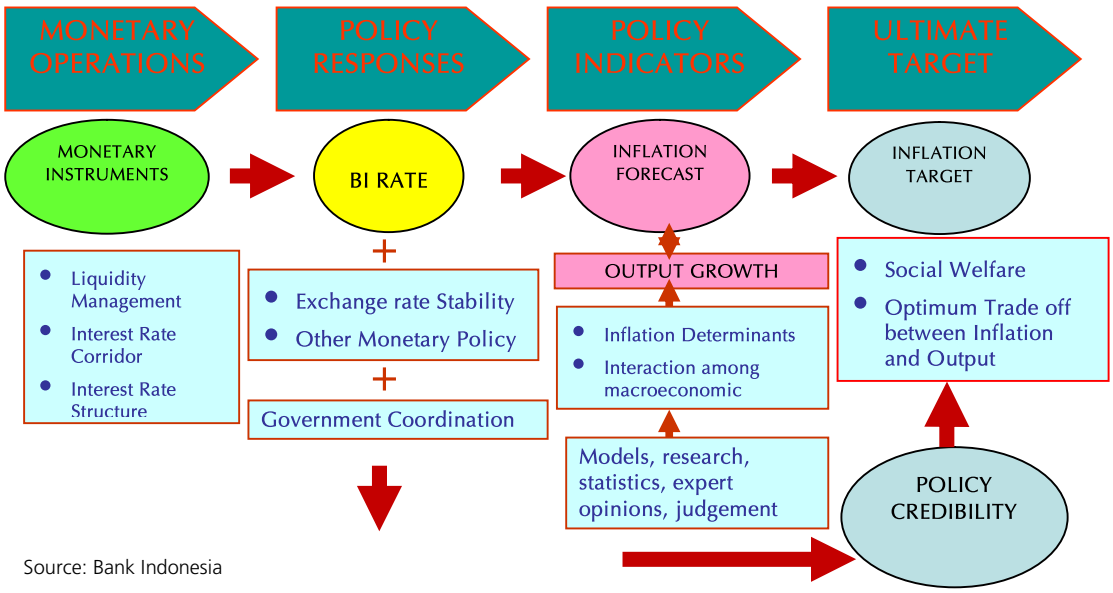
The New Framework: Key Measures and Rationale

Following steady improvement in the economy and the financial system, Bank Indonesia decided to take policymaking forward by adopting a new and enhanced monetary policy framework consistent with implementation of the ITF. The move was intended to strengthen effectiveness and build good governance in the monetary policy making in order to achieve the price stability necessary for sustainable economic growth and social welfare.

Key measures of the new and enhanced monetary policy framework are grouped into four main areas:

- *First*, the shift from base money to a policy interest rate called the BI Rate as operational target for monetary operations.
- *Second*, enhanced decision making process consistent with forward looking strategy for guiding current monetary policy responses towards achievement of the inflation target.
- *Third,* development of a more transparent communications strategy for stronger signalling of monetary policy responses to the market and influencing of inflation expectations, and
- *Fourth*, strengthened policy coordination with Government to mitigate inflationary pressures stemming from changes in administered prices and volatile foods prices and to ensure better management of the overall economy.

[29] Carare, A. and M.R. Stone (2003). "Inflation Targeting Regimes." IMF Working Paper No. WP/03/9, January.



Source: Bank Indonesia

Graph 1. Inflation Targeting Framework

The new policy measures for a strengthened ITF should not be viewed as disregarding the importance of economic growth. Indeed, the basic tenets of monetary policy for striking an optimum balance in achieving the inflation target were retained as central to the new framework. The measures were deemed necessary to bring inflation down, guide inflation expectations and deal more effectively with the inflation shocks, as well as reduce output volatility over medium-term horizon. The new monetary policy framework also offered a degree of flexibility in accommodating temporary inflation shocks without impairing achievement of the medium-term target.

Monetary Policy Response and Operations: The BI Rate

Under the new framework, the BI Rate was introduced in July 2005 as the monetary policy response and operational target. The BI Rate is the one-month SBI rate and was designated as the monetary policy rate for several reasons.

First, the one-month SBI rate has long been used as the benchmark for banks and market players in Indonesia. *Second,* use of the one-month SBI rate as the operational target will reinforce the signalling of monetary police responses. *Third,* with the significant improvements in banking and financial sector, SBIs now play an important role in transmitting monetary policy to the financial sector and the economy.

The BI Rate is set by the Board of Governors in the quarterly board meeting scheduled every January, April, July, and October. Under certain circumstances, the BI Rate may be revised in a monthly board meeting. In principle, the BI Rate is managed according to Bank Indonesia's assessment of the inflation forecast against the inflation target. This assessment is released to the public in the quarterly Monetary Policy Report, the monthly press release and other communications.

Monetary operations are conducted through weekly auctions with variable rate tenders and multiple price allotments. Each Tuesday, Bank Indonesia announces the weekly target for the SBI auction, which is guided by the BI Rate. To manage market liquidity, Bank Indonesia has retained fine tune operations using SBIs and government securities as underlying instruments.

Decision Making Process: Forward Looking Strategy

Under the new framework, the decision making process within Bank Indonesia is consistent with a forward looking strategy in which current monetary policy response is directed towards the future inflation target. Macroeconomic conditions, the inflation forecast, and the monetary policy response are assessed regularly in the quarterly board meeting in January, April, July, and October. The Board then uses this overall assessment to set the BI Rate at the level necessary to achieve the predetermined inflation target.

In the monthly board meetings, except for the months designated for the quarterly board meeting, inflation, the exchange rate and monetary and liquidity conditions are assessed against the forecast issued in the quarterly board meeting.[30] If unexpected developments necessitate adjustment in the current monetary policy response, a change in the BI Rate may be warranted. The overall framework now offers greater assurance of monetary policy effectiveness in safeguarding price stability.

Under the ITF, quality of analyses and forecasts are crucial to the monetary policy decisions made by the Board. To support the decision making process, Bank Indonesia has refined methods, conducted research and developed the supporting economic models. Various indicators and surveys have also been developed and introduced to enhance the quality of analysis. Equally important are the regional economic analyses by Bank Indonesia's regional offices throughout the country.

[30] The board customarily meets on the first Tuesday after the fourth day of the month, at a time and venue announced in advance.

Communication Strategy: More Transparent Monetary Policy

In the new monetary policy framework, management of inflation expectations plays a central role. This is even more important in Indonesia where inflation expectations have been a key determinant of inflation in addition to the impact of administered prices, volatile foods and direct exchange rate pass-through. Moreover, inflation expectation behaviour in Indonesia has been mostly adaptive in nature, reflected in substantial inertia with respect to current and past inflation.

For more effective management of expectations under a more transparency framework, the information in monthly press releases is now supplemented by the Quarterly Monetary Policy Report. This report presents the overall assessment of the quarterly board meeting on the recent developments in macroeconomic, inflation, and monetary conditions, as well as inflation forecast and monetary policy response. BI is also more intensively engaged in publishing monetary policy information in other media, such as the BI website.

Coordination with the Government

Coordination of monetary policy and fiscal policy and of economic policy in general is crucial to better overall economic management. For this reason, much has been done to intensify coordination in this area.

To coordinate actions in setting the inflation target and monitoring and controlling inflation, the government and Bank Indonesia have set up the Inflation Control Team, consisting of senior officials from relevant agencies and Bank Indonesia. Since its establishment, the Team has met regularly top discuss policy actions for mitigation of inflationary pressures. Concerted measures to mitigate first round and second round effects on inflation were taken with the hike in fuel prices and increases in other administered prices. More importantly, the Team has developed a roadmap for inflation control that covers the keys agenda for policy implementation by individual government agencies and Bank Indonesia.

Policy coordination is supported by regular meetings between ministers with economic portfolios and the Board of Governors of Bank Indonesia. These meetings discuss and assess macroeconomic conditions and policy measures needed to accelerate economic growth and improve macroeconomic stability. This reinforces the already close fiscal and monetary policy coordination operating between the Minister of Finance and Bank Indonesia on various fronts, notably in determining the inflation target and formulating major macroeconomic assumptions for the national budget.

[i] Another solution is to appoint a conservative central banker whose anti-inflation preference is stronger than that of the public (Rogoff, 1985).