

# Perspectives on Time Consistency and Credibility in Monetary Policy: The Case of Indonesia<sup>1</sup>

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*The author outlines the challenges facing Indonesia in implementing a consistent monetary policy. These challenges took on an added dimension when Bank Indonesia adopted the fully-fledged ITF, because ideal economic conditions had yet to be achieved. Supply shocks still play a dominant role in inflation, while more is needed to build the transparency, accountability and credibility of the central bank. This paper was presented at Bank Indonesia International Seminar on “Marrying Time Consistency of Monetary Policy with Financial Stability” held in Bali, 1-2 December 2005, featuring Prof. Finn E. Kydland, the 2004 Nobel Laureate in Economics, as keynote speaker.*

## 1. Introduction

Over the past two or more decades, two major developments have reshaped the conduct of monetary policy. First, price stability has become regarded as the primary objective. This is supported by both theoretical underpinnings and empirical findings that monetary policy over the medium and long-term horizon has impact only on inflation.<sup>2</sup> Even though monetary policy can influence output over the shorter horizon, empirical findings across several countries are mixed. Second, institutional governance at the central bank plays a significant role in monetary policy effectiveness. The seminal works of Kydland and Prescott (1977), Barro and Gordon (1983), Rogoff (1985), and others emphasise the importance of consistency (rules rather than discretion), credibility, and independence (“conservative”) for central bankers in the conduct of monetary policy.

Indonesia has also seen far reaching changes in the conduct of monetary policy and the institutional setting of the central bank. On a strategic level, the legal framework in the new central bank law (Act No. 23 of 1999, amended by Act No. 3 of 2004) establishes the maintenance of stability in the Rupiah as the sole objective for Bank Indonesia. Even though at a formal level, the stability of the Rupiah is understood to include stability in inflation and

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<sup>1</sup> Manuscript of a book chapter. Goeltom, M.S. (2008), Essays in Macroeconomic Policy: The Indonesian Experience, Gramedia, Indonesia.

<sup>2</sup> Walsh (2001), Chapter 1, provided an excellent review on the theoretical aspects and empirical findings of the impact of monetary policy on inflation and output.

the exchange rate, the overriding objective of monetary policy is to achieve the inflation target as set by the government (upon the recommendation of the central bank). In regard to the institutional framework, the central bank is now vested with independence while also required to meet stricter standards of accountability and transparency in monetary policy. These new mandates have driven the ambitious reforms under way at Bank Indonesia to build the standing of its policy making. In July 2005, Bank Indonesia launched the Inflation Targeting Framework (ITF), in which a policy interest rate is used as the operational target.

The major issue in choosing a monetary policy strategy appropriate to the characteristics of the Indonesian economy involves certain dualities in policy formulation. Here, the primary concern for the central bank (and the government) is price stability and economic growth. Until recently, short-term pressures from the growth side were explained partly by the recovery phase in Indonesia's economic cycle. In contrast, depressed economic growth, unemployment and weak bank intermediation are major issues whose long-term solution would be greatly advanced by price stability.<sup>3</sup> Within this context, an important task for Bank Indonesia is to build credibility in managing price stability to support sustainable economic growth.

Economic theory maintains that a highly credible monetary policy helps reduce uncertainty over monetary policy objectives. Credible monetary policy cushions the impact of multiple adverse developments. For example, harmful shock-induced fluctuations in inflation, interest rates, and output (employment) would be less pronounced when the central bank enjoys strong credibility. A high degree of credibility will also expedite the transition to the targeted rate of inflation. If the public understands that the central bank is likely to bring inflation back into line with the long-term target, expectations will react less strongly to short-term deviations from the inflation target. This will tend to reduce the amplitude of deviations in output, interest rates and inflation itself.

This paper is aimed at addressing issues of time (in)consistency and credibility within the Indonesian monetary policy context. Following this introduction, the next section reviews key dimensions of time inconsistency and credibility in monetary policy from a theoretical perspective as most relevant to the case of Indonesia. Section three covers more technical issues: the characteristics and challenges of the Indonesian economy as regards inflationary behaviour; the policy implications of handling inflationary pressures during the post-crisis period; and non-linearity of Indonesia's Phillips Curve. Section four discusses Indonesia's

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<sup>3</sup> In implementing the Inflation Targeting framework, the unstable correlation between monetary aggregates, output and inflation led Bank Indonesia to opt for the operational target of interest rates rather than base money. Another issue concerns the context for policy reaction, whether it should be based upon "rules" versus "discretion". To date, this remains the central question of practical interest for the conduct of monetary policy.

experience in the implementation of consistent and credible monetary policy. The final section presents conclusions and looks at some future considerations.

## 2. Key Dimensions from a Theoretical Perspective

The problem of time inconsistency in monetary policy basically refers to distortions between the initial policy decisions (*ex ante*) by the central versus the actual policies (*ex post*). Time inconsistency takes account of decisions by the public in response to all policy decisions and based on the track record of the public in past decisions. Despite awareness of the issue, a modern review was commenced only in the 1970's in the seminal works of Kydland and Prescott (1977). In the dynamic environment of monetary policy making, a central bank often has incentive to stray from its initial commitment to the inflation target and focus more on pro-growth strategies in a trade-off with increased inflationary pressures. Under conditions of rational expectations, inflationary bias would occur in a situation of coexisting constant growth and rising inflationary pressure. As such, the time inconsistency issue is closely related to monetary policy credibility. If the public is to rely on the central bank commitment to the inflation target, the central bank must have credibility. Even if the central bank enjoyed strong credibility, would monetary policy alone be effective in achieving price stability?

The simple lesson is that commitment benefits the economy through the shaping of public expectations. As long as time inconsistency problems persist, the public will always believe that the central bank has an incentive to allow higher inflation in order to promote stronger growth and reduce unemployment. Under conditions like these, the public would factor in higher inflation expectations (*ex ante*) into their business strategy. When repeated, this time inconsistency behaviour would produce discretionary policy responses with inflationary bias.

Many academics have refuted this idea and proposed a solution for time inconsistency problems. One of the solutions proposed by Barro and Gordon (1983) involves reputation forces. In this argument, time inconsistency arises when central bank is keen to communicate a low inflation stance (in order to maintain low inflation expectations) but surprises the public with higher inflation aimed at generating higher growth and employment. However, if the central bank steadily builds its reputation through the long and difficult process of unswerving commitment, the public will gradually come around to believing what the central bank is saying. Hence, when the central bank announces its commitment to reduce inflation, the public will trust this information and inflation

expectations will ease. On the other hand, when the central bank sets a high inflation target, its reputation suffers and more difficulties arise in building for higher future growth.

Another practical solution to time inconsistency issues is proposed by Rogoff (1985), through delegation of power. Using 'principal-agent' approach, Rogoff emphasised that a more inflation-averse or inflation-conservative person in comparison to other economic agents should be placed in charge of the central bank. Rogoff argues that social welfare could be improved if policymakers *ex ante* delegate monetary policy options to a pre-elected independent agent, in the sense that this agent could not be terminated *ex post* when a policy option is chosen. In this regard, policymakers could appoint an agent with a public preference, one different from themselves.

Commitment with certain levels of flexibility, established reputation and delegation of powers as described above are major building blocks for the institutional and governance aspects of monetary policy making. In particular, these views have important ramifications for the central bank in adopting an ITF. In implementing the ITF, the central bank is expected to maintain discipline and commitment for achievement of the medium-long term inflation target and simultaneously build credibility in the public eye. Nonetheless, as mentioned earlier, in building consistency and credibility, some major issues must be addressed. This applies especially to emerging economies in the process of structural change, including Indonesia.

This section discusses key dimensions in implementing a consistent and credible monetary policy, namely an optimum inflation target, inflation expectations and the use of discretion versus rule-based policy decisions to bolster the credibility of monetary policy that is inherent to operation of the ITF.

## **2.1. Optimum Inflation Target**

The first dimension in implementing consistent and credible monetary policy concerns an optimum level of inflation targeting. By definition, an optimum inflation target refers to the level of inflation that will most benefit social welfare. Technically, the optimum level of inflation can be obtained by minimising the so-called loss function of policymakers (including the central bank) subject to certain resource constraints (e.g., the economic structure, state budgetary conditions, institutional frameworks, etc.) and random disturbances. In general, this loss function allows for variations in output growth and inflation. It is mainly driven by the technical relationship between inflation and output and interaction with economic structures as reflected in type of disturbances and private expectations.

In practice, the challenge for monetary policymakers in choosing an optimum inflation target is to strike a balance between economic growth and inflation. However, determining the weighting assigned to each of these variables—which represent the policymakers' preference for growth versus inflation—is problematic. This choice involves many factors, such as the technical capacity to quantify the relationship between output and inflation, represented by the Phillips Curve. In addition, the shape of the Phillips Curve—in particular whether it is linear or non-linear—gives rise to considerations captured by a concept called the sacrifice ratio.<sup>4</sup>

The interactions within the economic structure will determine whether the source of disturbances is demand or supply driven. Inability to identify the source of these disturbances could lead to incorrect policy responses. When policymakers are able to identify the type of disturbance, monetary policy still faces challenges in situations of dominant impact on inflation from supply shocks. Moreover, because the impact of any policy decision takes effect only after a certain time lag, policymakers must consider forward-looking policies, which involve the role of private expectations. In this complicated context, the impact of policy decision-making would be more effective if policymakers were credible and private agents were rational, i.e. forward looking.

## 2.2. Inflationary Expectations

To create appropriate policies for consistent application, a policymaker requires sound information on past and current economic conditions as well as expectations of future inflation. These inflationary expectations are a key factor in the processes of price and wage formation. In this respect, the magnitude of future inflation is determined subjectively by perceptions of future economic conditions.

On a related, narrow technical issue, inflationary expectations are said to be adaptive if agents base their expectations on *past* inflation rates. Past inflation may have been driven by persistent pressure from either the demand or supply side, or by an accommodative monetary policy. These three sources of persistent pressure provide the basis for characterising inflation as built-in inflation, hangover inflation, inertial inflation or structural inflation. The negative impact of adaptive behaviour and inflation in some of these forms (e.g., built-in inflation and spiralling wages) can be mitigated if agents are forward-looking and base their expectations on the central bank's target. Consequently, credible anti-

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<sup>4</sup> Technically, the sacrifice ratio is defined as the percentage loss in real output associated with a one-percentage point fall in inflation.

inflationary policy by a reliable central bank is critical to containing the damaging behaviour of adaptive economic agents.

The shift from adaptive to forward-looking behaviour is correlated with two major factors, the accuracy of past inflation forecasts and consistency in the central bank commitment to the inflation target. These two factors can be reinforced by the mechanism of determining a clear inflation target path.

### **2.3. Rules, Discretion and Credibility of Monetary Policy**

Economists have long debated the controversy of central banks adopting a discretionary versus a rule-based monetary policy. Although central banks normally opt for a discretionary approach, recent shifts in the monetary policy framework have rekindled this debate. To clarify some details, a discretionary policy is often deemed to pose a major problem known as 'dynamic inconsistency' or 'time inconsistency.' This problem (also known as inflationary bias in policy) arises when monetary policy biases its policy decisions in favour of inflationary conditions over an extended period of time. From this perspective, monetary policy would be more effective if it were rule-based in the long run (Kydland and Prescott, 1977; Barro and Gordon, 1983).

To elaborate, this problem of dynamic inconsistency can arise when the central bank announces targets in departure from established policies, including new targets after economic agents have adapted their behaviour to the earlier central bank announcement. A classic example occurs when a central bank deceitfully attempts to stimulate short-term economic growth at the expense of a previously announced target of price stability. However, as time passes, economic agents become aware of the deception and adjust their behaviour accordingly. This further biases underlying economic conditions towards inflation.

Under a rule-based monetary policy, the central bank is forced to abandon such tactics. Although monetary policy in the short run may not adjust fully to certain peculiar economic conditions, in the long run it will be more effective by avoiding an inflationary bias to policy. Under this approach, the policy framework chosen by the central bank depends to a great extent upon the exact rules that are adopted.

In examining this difference between discretionary and rule-based policy, it can be concluded that central bank credibility could be improved if decision-making rules were adopted to achieve the primary objective of the inflation target. However, central bank credibility can only be earned by building a strong track record of acting consistently and

convincingly to achieve the inflation target. In other words, commitment to reputation is vital to building credibility.

In the following sections, we will discuss the characteristics of the Indonesian economy and the associated challenges in implementing a consistent and credible monetary policy.

### **3. The Indonesian Economy: Characteristics and Challenges**

The 1997 financial crisis brought widespread devastation to the Indonesian economy. Inflation soared, the exchange rate plummeted and the economy suffered heavy losses in real output. Indonesia responded with a three-pronged monetary strategy involving a commitment to price stability, free floating exchange rate and restructuring of the banking system. This strategy succeeded bringing down interest rates, curbing inflation and restoring moderate growth. Key to these achievements was the pursuit of mutually supportive monetary and fiscal policies that helped sustain growth momentum. Nevertheless, deeply rooted structural weaknesses continued to hamper the recovery in growth that would be vital to reducing unemployment. The economy remained vulnerable to external shocks and suffered a renewed burst of inflation in October 2005.

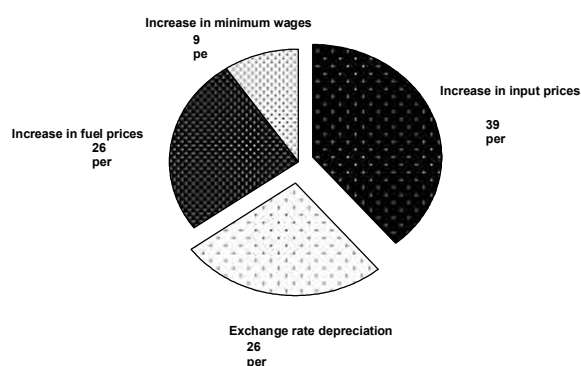
The overriding objective of price stability was established in Act No. 23 of 1999 as the anchor for monetary policy, but the central bank's commitment to price stability was later challenged by the need to preserve growth momentum. The ongoing recovery process involved risk to the Bank Indonesia ITF strategy, which demands transparency, flexibility and credibility in the policymaking process. Combating inflationary pressures had become more complex because of the nature of inflation in Indonesia, often characterised by supply rather than demand shocks, persistent pressures and the existence of a non-linear Phillips Curve. Further constraints to curbing inflation came from the non-monetary components of the inflation rate. The following sections discuss the problems and challenges arising from these factors for Indonesian monetary policymakers in formulating an optimum inflation target.

#### **3.1. Anatomy of Inflation: Difficulties in Formulating an Optimum Inflation Target?**

To formulate an optimum inflation target, a policymaker needs extensive information about inflation, including issues related to core and CPI inflation, administered prices and other factors. Inflationary pressure in Indonesia is driven mainly by *fundamentals* such as exchange rate fluctuation, interaction between aggregate demand and aggregate supply and

public inflation expectations. Other, *non-fundamental* factors include volatile foods and government policy on administered prices.

A study on the characteristics of CPI inflation (Bank Indonesia, 2003c) shows that inflation in Indonesia tends to fluctuate in line with certain goods in the CPI basket (that is, by relative price changes), most importantly seasonal agricultural commodities. High inflation also results from distribution bottlenecks, especially for food. This implies that inflation is strongly affected by supply shocks. Other studies of price dynamics (Bank Indonesia - DKM, 2001b and Bank Indonesia - PPSK, 2003) argue that prices set by firms are often determined to a large extent by oligopolistic market power. As a result, when costs rise from changes in administered prices (such as for fuel and electricity), exchange rate depreciation or distribution bottlenecks, companies immediately pass on these costs to consumers.



Source: Bank Indonesia

**Graph 1. Composition of Price Determinants (Supply Side)**

The strong influence of supply shocks (i.e., non-monetary factors) in Indonesia limits the options of the central bank in curbing inflation. Monetary policy would be more effective if price increases were driven by demand-side pressures. Because monetary policy mainly affects the demand side, it can be more effective in addressing excess demand during times of escalating prices.

To strengthen its inflation control capability, Bank Indonesia uses core inflation as an indicator to measure underlying inflationary pressure for determining policy responses.<sup>5</sup> This reflects the susceptibility of the CPI to increases in administered prices and wide fluctuations

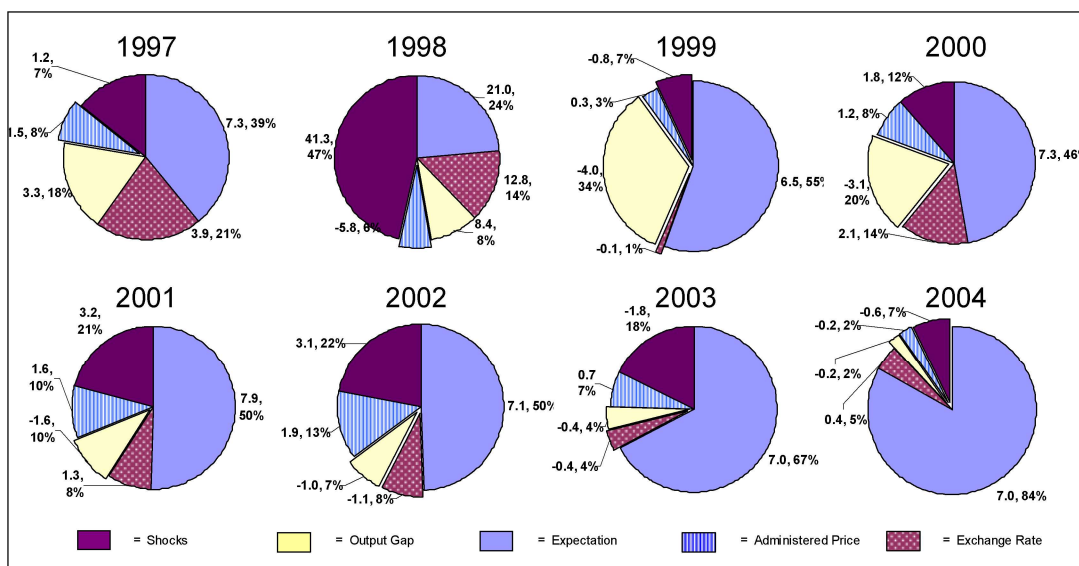
<sup>5</sup> Bank Indonesia developed core inflation for internal measurement purposes, using the exclusion and trimming methods. The exclusion method works by excluding the goods belong in the administered prices and volatile food categories, while the trimming method is a statistical method that works by trimming some commodities that fluctuate in cross-section manner.



in volatile foods that are beyond the control of monetary policy. However, the CPI is still announced publicly because it enjoys wide recognition and has direct impact on real incomes. As discussed below, the main factors in persistently high core inflation are public expectations of inflation and depreciation in the exchange rate. In recent times, with the economy is operating well below potential output, the output gap has had little effect on inflation.

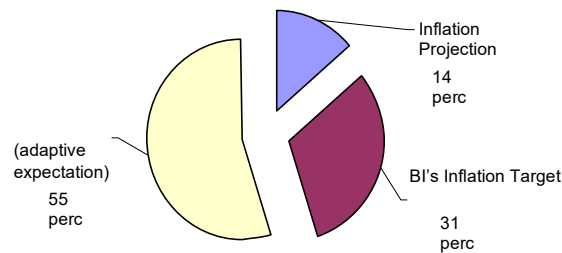
### 3.2. Expectations: Keeping Inflation High?

A decomposition analysis using a Phillips Curve approach (Bank Indonesia SSMX 2004 model) shows that inflation is determined by a number of factors—shocks, output gap, expectations, administered prices and the exchange rate. Among these factors, expectations have come to play a leading role in determining the inflation rate (Graph 2). In relation to this dominance, another study confirmed the importance of adaptive expectations in the behaviour of economic actors. In recent studies (Bank Indonesia - PPSK, 2003; Hutabarat, 2005), adaptive behaviour was reflected in a relatively large number of respondents using the actual inflation rate as the main determinant of their inflationary expectations (Graph 3).



Source: Bank Indonesia

Graph 2. Decomposition of Inflation 1997-2004



Source: Bank Indonesia

**Graph 3. Sources of Inflation Expectations**

The above findings were further supported by another study using the Bayesian Learning approach with a stochastic general equilibrium model (GEMBI). During both the pre- and post-crisis periods, inflationary behaviour was strongly related to backward looking/adaptive inflation patterns. A number of factors account for the dominant role of adaptive behaviour in forming expectations: the inconsequential impact of the Bank Indonesia inflation target on public expectations, downward price rigidities, spiralling wages due to real increases in minimum wages, inelastic demand during religious festivities and holidays and a highly oligopolistic local market structure.

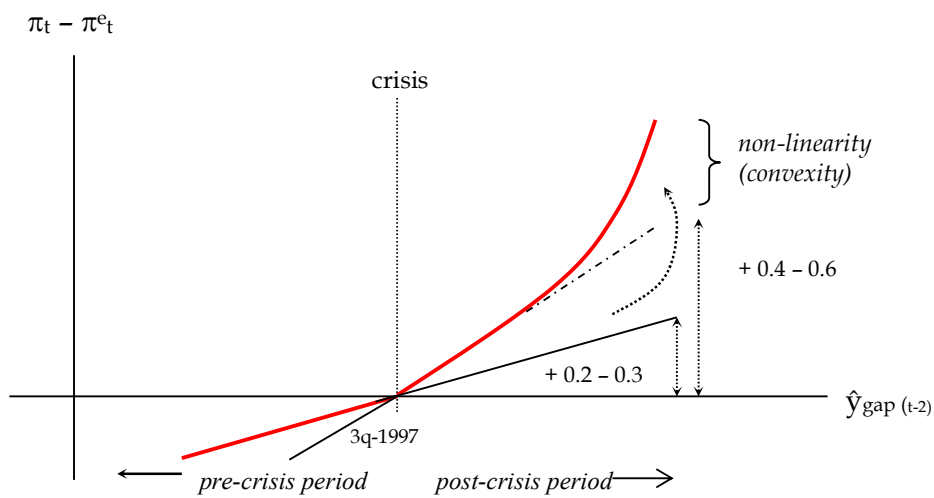
### **3.3. Relationship between Inflation and Growth: Non-linearity of the Phillips Curve?**

Another challenge to monetary policy is the difficulty in achieving the inflation target when policy also calls for strong economic growth. A traditionally popular view holds to the trade-off between output and inflation and this has served as the basis for policy analysis for many years. Since the introduction of the Phillips Curve in the 1950s, economists have gone to great lengths to investigate whether this trade-off does in fact exist. With the growing popularity of inflation targeting, it is widely accepted that lower inflation brings long-term benefits for society, and therefore inflation has to be combated at all costs. However, there is also a strong belief that taking a tight policy stance aimed at curbing inflation entails some short-run costs in terms of lost output. This is known as the sacrifice ratio.

A linear Phillips Curve indicates that once output is below trend, inflationary pressures subside. Given the prevailing view of the costs of disinflation as the economy weakens (for example, economic dislocations such as bankruptcies and unemployment), the overall costs of disinflation might be minimised by keeping the economy below—but not far below—its long-term trend. Evidence for Indonesia on linearity tests of the Phillips Curve (Solikin 2004)

points to significant change between the pre-crisis and post-crisis periods. During the pre-crisis period, the Phillips curve was characterised by moderate pressure on the output gap, dominant adaptive expectations and a linear output-inflation relationship. However, during the post-crisis period, the curve reflected stronger pressure from the output gap, a relative shift into rational expectations and a non-linear (convex) output-inflation relationship (Graph 4).

A steeper Phillips Curve implies a lower sacrifice ratio. Under normal conditions, it is better for Bank Indonesia to deliberately implement a disinflationary policy. However, when output is below potential, as during a period of recovery, the preferred action is to preemptively resist rising inflationary pressure, rather than aggressively trying to deflate. This also implies that there is a need to incorporate a discretionary element in monetary policy to make allowances for situations requiring output cost and policy stance to be evaluated on a case-by-case basis.



Source: Solikin (2004)

Graph 4. Phillips Curve in Indonesia

### 3.4. Consistency and Credibility of Monetary Policy

The current challenges in which growth momentum and employment are at risk mean that Bank Indonesia will face scrutiny for the consistency and credibility of its policies. Before the crisis, monetary policy response in Indonesia tended to be biased towards a discretionary approach. This was manifested in an unclear pattern of policy responses using both base money and interest rates as the operational target. Following the changeover to

central bank independence in 1999, monetary policy has been designed around an inflation target. In the early stages of this framework, monetary policy was operationally focused on controlling base money according to the needs of the real economy. However, because of inflation characteristics specific to Indonesia as noted above, it is difficult to control inflation efficiently through control of the money supply. In this situation, base money control must be such that it still creates opportunities for prudent lowering of interest rates to improve the supply side of the economy.

Until early this year, the monetary policy framework operated through a target for base money expansion in line with the inflation target. However, with inflation strongly influenced by expectations, base money became less relevant because of difficulty in control and because market players cannot easily understand the implications of base money for the monetary policy stance. Studies conducted by Bank Indonesia also concluded that the correlation between money supply and inflation had weakened due to innovations in financial instruments and very rapid cross border movements of capital.

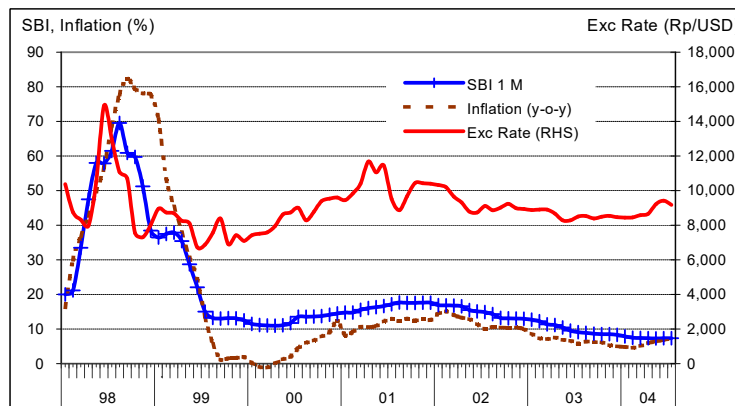
As a result, disinflationary policy failed to gain credibility and therefore proved ineffective in building forward-looking public expectations. In the early days of implementing the disinflationary policy, inflation forecasts were mostly inaccurate. In turn, the public tended to ignore announcements of inflation targets, preferring to shape expectations from country's long-standing track record of inflation outcomes. This backward-looking behaviour contributed to keeping inflation in Indonesia stubbornly high and difficult to reduce.

#### **4. What Has Been Accomplished?**

##### **4.1. Building Consistency and Credibility**

A notable feature of monetary policy in the post-crisis period is the gradual disinflationary path in support of sustainable growth. This became possible through the pursuit of mutually reinforcing monetary and fiscal policies that also helped sustain economic recovery. Inflation declined from 77.63 percent in 1998 to 6.4 percent (y-o-y) in December 2004 while the Rupiah strengthened from a low of around Rp 16,000/USD in 1998 to Rp 8,800/USD at the end of 2004 (Graph 5). While international interest rates were declining and country risk was improving, domestic interest rates were allowed to ease in move to pursue more accommodative policy without adverse effects on inflation and the exchange rate. Low global inflation also helped to ease domestic inflation. Combined with the ongoing work to build the soundness and resilience of the banking system, these factors did

much to strengthen bank performance and maintain macroeconomic and financial system stability.



Source: Bank Indonesia

**Graph 5. Post-Crisis Economic Indicators**

Under the policy framework for curbing inflation, the government in coordination with Bank Indonesia established CPI inflation targets for 2005, 2006, and 2007 at 6 percent  $\pm$  1 percent, 5.5 percent  $\pm$  1 percent and 5.0 percent  $\pm$  1 percent. These represent intermediate targets along the path towards a long-term target of 3 percent on par with Indonesia's main trading partners. These targets are expected to provide a point of reference for inflation expectations in the economy.

In July 2005, Bank Indonesia adopted the ITF with a more transparent communications strategy aimed at strengthening monetary signals with the use of interest rates (most notably, the Bank Indonesia policy rate) as the operational target. Under this new framework, Bank Indonesia envisages the strengthening of the policy-making and implementation mechanisms through a forward-looking strategy for pursuing the inflation target. This, it is expected, will alleviate inflation expectations. Because the monetary instruments must be easily understood by the public, interest rates are the preferred choice. This choice stems from the greater clarity in the interest rate policy signal, which makes it easier to shape public expectations. Furthermore, because inflation in Indonesia is believed to originate chiefly from supply factors, bringing inflation down by influencing expectations will have minimal impact on overall demand.

The decision to use of interest rates as the operational target under the ITF was not based solely on the need to influence expectations. Interest rates also have the advantage of

measurability. In this sense, they offer greater accuracy, speed and clarity compared to base money. Interest rates are also easier to control than monetary aggregates, which often appear somewhat unstable. This control can operate through liquidity adjustments and direct signalling to guide public expectations. A further advantage is the ability of interest rates to affect the ultimate target. Several studies show that interest rates contain strong information on inflation and have the capability to curb inflation through various transmission channels. That said, interest rates can only produce optimum results in policy signals if public expectations are forward-looking. To this end, the main priority for Bank Indonesia is now to build credibility through the following actions:

- (i) Bank Indonesia has taken extensive steps to communicate the policy framework to the public through seminars and round-table discussions with bankers, academics, government officials, Bank Indonesia regional office officials and the media.
- (ii) Communication is reinforced by quarterly policy announcements in order to establish consistency, a key prerequisite for communication of the inflation targeting policy. Success in building credibility will only ensue if the policy is clearly and consistently implemented in line with deviations of expected inflation from the target.
- (iii) Strengthening of decision-making processes within Bank Indonesia as required by the forward-looking strategy for determining monetary policy responses for achieving the inflation target. Overall macroeconomic conditions, the inflation forecast and monetary policy responses are assessed at each quarterly board meeting as the basis for deciding the BI Rate for achievement of the inflation target. A number of methods, research and economic models have been developed to assist with the board's analysis, forecasts and policy recommendations. Analysis is also supported by a range of indicators and survey findings. Equally important are the regional economic analyses conducted by Bank Indonesia's regional offices throughout the country. All this is intended to build confidence in the Bank Indonesia inflation target as a reference point for business planning.
- (iv) Regular press releases and press conferences to announce the decisions of the board meeting. These are complemented by a quarterly Monetary Policy Report presenting an overall assessment on macroeconomic, inflation, and monetary conditions, an inflation forecast and the monetary policy responses necessary to keep inflation on track with the target.
- (v) Strengthening of policy coordination with the fiscal authorities. The magnitude of influence from hikes in administered prices on inflation means that inflationary pressures

can potentially be mitigated through regular consultation on proper timing for adjustments in administered prices. The government and Bank Indonesia have set up a team of senior officials from related government agencies and Bank Indonesia to set the inflation targets and monitor inflationary fluctuations.

#### **4.2. Potential Threats to Credibility and Further Policy Responses?**

Despite progress since the crisis, the economy is still burdened by various constraints and problems. The main challenges confronting the Indonesian economy are to maintain stability amid rising global uncertainty and to reduce unemployment and poverty through accelerated growth. The challenge in monetary policy is to contain rising inflationary pressures without impeding economic growth. Complicating this challenge is persistent excess bank liquidity in banks and lack of recovery in the monetary policy transmission mechanism.

To respond to these challenges, monetary policy must be directed consistently towards the mitigation of inflationary pressures through a tight bias. Unfortunately, the Indonesian economy remains vulnerable to external shocks (e.g., global oil prices and a weakening exchange rate). In late 2005, Bank Indonesia reacted to these pressures by intervening on the foreign exchange market and introducing certain regulatory measures to cut off opportunities for short-term currency speculation. Bank Indonesia also hiked its policy rate several times outside the ITF schedule during Q3/2005, from 8.25 percent in July to 12.25 percent by end-November 2005.

These interest rate decisions were motivated by concerns over expected inflation relative to target, as Bank Indonesia explained in public statements. Nonetheless, the turbulent circumstances of Q3/2005 made it difficult for market players and the public in general to fully appreciate the new policy framework. Instead, misunderstandings persisted over the forward-looking inflation target approach. Market players seemed to perceive the rate adjustments as efforts to stem the rapid depreciation in the Rupiah.

While the exchange rate did trigger the rapid pace of policy adjustments, Bank Indonesia acted out of concern about the expected inflationary impact of the exchange rate and rising world oil prices. Some market participants, however, apparently still believed that Bank Indonesia reacted more or less to the contemporaneous inflation rate. This calls for greater effort in the Bank Indonesia communication strategy to explain the forward-looking nature of the new framework, which should be stressed at each available opportunity. This is an essential component in building the credibility in the inflation targeting concept, especially in the wake of shocks.

Under the ITF, a central bank is ultimately expected to follow some variation of the so-called Taylor rule. In Indonesia, however, a Taylor rule is difficult to apply because of the discretionary nature of many policy decisions. Other difficulties in applying a Taylor rule in policymaking stem from other factors as mentioned above: inflation predominantly influenced by supply rather than demand shocks, persistent inflationary pressures and non-linearity of the Phillips Curve.

Regarding this, an alternative solution is the use of "state contingent rules," which could help to cope with the dynamism of the Indonesian economy and implementation of an ITF during this transition period. The design of state contingent rules would accommodate characteristics of both the discretionary and rule-based approaches. This would work through error corrections in the context of specific shocks originating in sudden structural changes or dynamic uncertainties that could trigger volatile responses to monetary policy.

Evidence in earlier studies (Solikin 2004) suggests that the design of state contingent rules would work more effectively for the Indonesian economy than other, simpler rules (e.g., Taylor and McCallum rules). Assessments of Bank Indonesia's monetary policy responses in 1980-2003 using a state contingent rule, assumed to be a hypothetically optimum policy response for the Indonesian economy, were as follows (Table 1). *Firstly*, monetary policy episodes were generally characterised by reactive and sub-optimum policy responses applying a great deal of discretion. These were reflected not only by overly tight or loose tendencies in monetary policy, but also by responses to instantaneous structural changes that could be interpreted as policy inconsistency. *Secondly*, except for 1993-1994 and certain periods of optimal monetary policy, interest rate-based responses and money-based responses tended to have different effects. This could have been attributed to different characteristics in the use of both instruments and operational targets. *Thirdly*, there was a tendency for interest rates and the monetary base to respond to each other, or be complementary in nature. For example, SBI rates were raised sharply in response to the excess liquidity resulting from BI liquidity support and massive deposit withdrawals early in the crisis.



**Table 1. Performance evaluation of BI monetary policy responses**

Period	Monetary policy stance	Evaluation based on optimum policy rule	
		Interest rates	Monetary base
1980 – 1982	Monetary policy before financial deregulation and liberalisation.	Tight bias	Tight bias
1983 – 1984	Monetary policy in support of strong banking environment and economic growth.	Fairly optimal	Expansionary or loose bias in 1983.3 – 1984.2
1985 – 1987	Discretionary monetary policy amid pressures on balance of payments.	Fairly optimal in 1985/86, but too loose on 1987	Fairly optimal
1988 – 1989	Expansionary monetary policy	Too loose	Fairly optimal, but too tight in 1988.4 – 1999.3
1990 – 1992	Tight monetary policy accompanied by discretionary and sound banking policies.	Too tight	Too loose in 1990, but too tight in 1991/92
1993 – 1994	Monetary policy in fairly stable environment	Fairly optimal	Fairly optimal
1995– 1997.2	Discretionary monetary policy amid inflationary pressure and expansionary domestic demand.	Too tight	Too tight in 1995, and fairly optimal in 1996
1997.3– 1999	Monetary policy during the crisis	Too tight (extreme) <sup>6</sup>	Too loose in 1998 (extreme)
2000 – 2003	Monetary policy to maintain stability in supporting economic recovery.	Too loose in 2000/01, but fairly optimal in 2002/03	Fairly optimal in 2000/01, but too tight in 2002/03

Source: Solikin (2004)

### 4.3. Another Condition: The Need to Strengthen the Financial Sector?

Another key lesson from the 1997/98 crisis concerns the policy focus of the central bank, which extend beyond price stability and output growth to include financial system stability.<sup>7</sup> Financial system stability has emerged as an important strategic concern for Bank Indonesia and will remain so, even after an efficient market economy is in place. Indonesian policymakers are now strongly motivated to include a financial system stability component into their macroeconomic policy framework. Strong financial infrastructure—accompanied by appropriate supervision—is a prerequisite for the integration of domestic financial markets into the more complex global markets. Borio (2003) argued that a ‘macro-prudential

<sup>6</sup> This tight policy response was taken under the stabilisation programme for dealing with the economic crisis, based on Indonesia’s cooperation with the IMF in 1997. Analyses and evaluations of IMF programmes in some Asian countries generally indicate that the interest rate policy stance was too tight.

<sup>7</sup> The challenges in the domestic financial sector were a major consideration for Bank Indonesia in the implementation of an inflation targeting framework. This is consistent with the study by Devereux and Lane (2000) on Inflation Targeting in which they argue that large foreign exchange exposure on corporate balance sheets has a major impact on cyclical fluctuations in the domestic economy. This suggests the use of alternative policy framework, such as foreign exchange targeting, instead of inflation targeting. Therefore, consistent commitment to inflation targeting is inherent in Bank Indonesia’s objective of building a sound and stable financial sector (Goeltom, 2005).

approach' should be enhanced to limit risk if the financial market is subject to sustained pressure that would reduce real economic output.

As a final point of note, Bank Indonesia (in its capacity as the monetary and banking supervision authority) is collaborating with the government on a series of integrated policy actions. These include: (i) strengthening monetary control through price stability targets; (ii) reinforcing financial system stability through market discipline and regulations; (iii) restructuring and reforming the financial sector under the financial system architecture, and (iv) consolidation of banking infrastructure with the establishment of a credit information bureau.

## 5. Conclusion

The implementation of consistent and credible monetary policy in Indonesia is no easy task. Underscoring this are the unique characteristics of the Indonesian economy, which is still in a process of structural and institutional transition as frequently reflected in the fluctuations of various macro variables. Moreover, as Indonesia moves towards economic recovery, an optimum strategy for a transparent, flexible and credible Inflation Targeting Framework inevitably involves risks. At the same time, curbing inflationary pressures has become a more complex undertaking, at least in the short run, because inflation in Indonesia is often characterised by supply rather than demand shocks, persistent pressures and a non-linear Phillips Curve.

To reiterate, a fully-fledged ITF for Indonesia must consider the need for support in three critical areas:

- (i) Because supply shocks tend to dominate inflation, coordination between monetary sector and real sector policies has a vital role in mitigating excessive inflationary shocks.
- (ii) Despite the strong preference for growth-oriented policies during the ongoing recovery phase, price stability can never be neglected. Considering the dynamism and unique characteristics of the Indonesian economy, monetary policy would be more effective if conducted under "state contingent rules."
- (iii) The need for continuous improvement in the institutional and legal preconditions for a fully-fledged ITF, covering the independence of the central bank, strengthened accountability and greater transparency.

Implementation of monetary policy must ultimately decide between flexibility on one hand and credibility and transparency on the other. Within these bounds, certain discretion

will be needed to help with Indonesia's short-term problems. Nevertheless, excessive flexibility—for example, that leads to unclear changes in policy decisions—would undermine the credibility and policies of the central bank. In this respect, the implementation of ITF in Indonesia has now passed the introductory stage, when Bank Indonesia went to great lengths to promote credibility and transparency.

Looking ahead, it can only be expected that consistent commitment and determined implementation will be essential to the realisation of a more credible, fully-fledged ITF. None of this will be easy, and from time to time issues will arise that will deflect from the long-term goal of price stability. Nevertheless, progress is being achieved and the direction is clear. Most importantly, Bank Indonesia welcomes the challenges that lie ahead and fully intends to meet legal commitments as the institution responsible for preserving the value of the nation's currency.

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