

Monetary Policy Regime in Indonesia^a

Solikin M. Juhro and Miranda S. Goeltom^b

Abstract

The challenges encountered after the financial crises of 1997–98 and 2008–09 have revealed some valuable lessons with regard to monetary policy. In a small open economy, such as that of Indonesia, the multiple challenges facing monetary policy as a result of capital flow dynamics, amid inflationary pressures, suggest that the monetary authorities should employ multiple instruments. This paper shows that coordinated implementation of a policy instrument mix should ultimately be part of an important strategy for optimally managing the monetary policy trilemma in the current climate, which is fraught with widespread uncertainty.

It also shows that a post-GFC monetary policy framework in Indonesia is, generally, characterized by “enhanced” ITF. In “enhanced” ITF, the policy framework continues to adhere to an inflation target as the overriding objective of monetary policy. The main characteristics of ITF will remain, namely, that the inflation target is announced publicly and that the monetary policy is forward-looking, transparent, and clearly accountable. However, the ITF is implemented in a more feasible manner, which means that Bank Indonesia must not only look at the inflation target merely in terms of policy formulation but also consider a number of other factors, including financial sector stability and the dynamics of capital flows and the exchange rate. Therefore, achievement of macroeconomic stability not only is tied to monetary stability (price stability) but also interacts with financial system stability.

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1. Introduction

The monetary policy regime in Indonesia has been significantly affected by rapid changes in the macroeconomic environment, structural adjustments, and a dynamic political climate over the last four decades. As we know, Indonesia has undergone a number of far-reaching structural adjustments in all economic sectors since the early 1970s. These adjustments, which were fostered by accelerating globalization and two major financial crises in 1997–98 and 2008–09, have had major implications for monetary management. Before the financial crisis of 1997–98, monetary policy in Indonesia was characterized by a shift from one regime to another. It started with the credit and interest rate control policy, coupled with the exchange rate and capital flow management, which were relatively restrained in the 1970s. Monetary targeting was sequentially implemented in the era of financial sector deregulation, with a more market mechanism-based monetary management approach in operation from the early 1980s through the first half of the 1990s. During this period, the Indonesian economy was in a boom phase with ample foreign capital flows.

The aftermath of the financial crisis of 1997–98 was a period in which the monetary policy regime was directed at implementation of the inflation targeting framework (ITF) with a strong emphasis on institutional and governance development aspects. In the early 2000s, despite the substantial progress made following the process of recovery from the crisis, the economy was still burdened by various constraints and problems. The main challenges confronting the Indonesian economy were to maintain stability amid rising global uncertainty and to accelerate growth. In the second half of the 2000s, amid the struggle to reinforce macroeconomic performance, monetary management was confronted with a series of fundamental challenges associated with occurrence of the global financial crisis (GFC) of 2008–09. In a climate of high global uncertainty, the GFC significantly affected not only the domestic financial system and macroeconomic developments in the region but also how monetary policy should be implemented.

Related to the above background, one important policy issue that needs to be addressed is the “impossible trinity” (the monetary policy trilemma). In practice, in line with the increase in global financial market integration and large capital flows that impose pressures and

complications on implementation of monetary policy, there is a tendency for monetary authorities to prefer to shift from a “corner solution” to a “middle solution”, particularly in developing countries. It is widely argued that there should be a more accommodative response that takes into account the concept of managing exchange rate movements within a certain range (not fully flexible) and restricts movements of foreign capital.

In the case of Indonesia, the orientation of monetary policy in the midst of high global uncertainty is tactically directed not only toward controlling inflation but also toward managing the exchange rate in a specified range, in line with macroeconomic fundamentals, through quite active interventions in the foreign exchange market. In addition, the monetary policy regime simultaneously manages international reserves at safe levels. This condition has a logical consequence whereby the exchange rate dynamic will not be completely influenced by market forces but will also be strongly influenced by domestic monetary policy (Juhro, 2010b). Quantitatively, this is reflected in the decomposition of co-movement between exchange rate and capital flows, which decreased significantly, from 86 percent during the financial crisis of 1997–98 to 53 percent during the post-GFC period (Table 1). Meanwhile, the decomposition of co-movement between the exchange rate and the interest rate differential increased significantly, from 14 percent to 47 percent.

Table 1. Co-movement of exchange rate with capital inflows and interest rate differential

Comovement with Exchange Rate	1997 – 2000 1997/98 Crisis	2001 – 2005 Transition of ITF	2006 – 2008 ITF Pre The GFC	2009 – 2013 The GFC - Post GFC
Capital inflows (NFA)	0.86	0.74	0.56	0.53
Interest rate differential	0.14	0.26	0.44	0.47

Source: Juhro (2010b), updated.

Note: GFC: global financial crisis; ITF: inflation targeting framework.

Table 2 provides strong empirical evidence that there is a tendency for monetary policy strategy to move away from that which is hypothesized by the monetary policy trilemma. With regard to the trilemma index developed by Aizenman et al. (2008), it can also be seen that over the last 15 years, along with the high degree of integration between Indonesian financial markets and global financial markets and improvement in domestic monetary policy autonomy, exchange rate developments have tended to be more stable.

Table 2. Indonesian monetary policy trilemma index

Trilemma Index	1997 – 2000 1997/98 Crisis	2001 – 2005 Transition of ITF	2006 – 2008 ITF Pre The GFC	2009 – 2013 The GFC - Post GFC
Exchange rate stability	0.11	0.27	0.25	0.28
Monetary policy autonomy	0.45	0.30	0.50	0.57
Financial market integration	0.74	0.69	0.69	0.71

Source: Juhro (2010b), updated.

Note: GFC: global financial crisis; ITF: inflation targeting framework.

These facts trigger additional complications in the implementation of ITF-based monetary policy in the context of a small open economy such as that of Indonesia. This is because the hypothesized role of the exchange rate as a shock absorber is not completely fulfilled, and, on the other hand, there is a tendency for the monetary authority to steer monetary policy, directly or indirectly, toward managing the exchange rate. Amid a deluge of foreign capital inflows, a policy orientation toward managing external balances can become counterproductive to central bank liquidity management in the money market.

This chapter focuses on two questions. First, how has the monetary policy authority coped with these challenges? Second, does the assessment suggest a need for changes in the monetary policy framework or monetary policy regimes in terms of monetary policy autonomy, exchange rate stability, and capital mobility, i.e., the impossible trinity? Thus, it explores rational arguments for the monetary authority to confront these issues, specifically, how to optimally transform the impossible trinity into a possible trinity.

It can be shown that in a small open economy such as that of Indonesia, the multiple challenges faced by monetary policy as a result of capital flow dynamics, amid inflationary pressures, imply that the monetary authority should apply unconventional wisdom to monetary policy and employ multiple instruments. This chapter shows that coordinated implementation of a policy instrument mix is a key part of an important strategy of optimally managing the monetary policy trilemma in the current climate, which is fraught with widespread uncertainty. The chapter also shows that the post-GFC monetary policy framework in Indonesia is, as a general rule, characterized by “enhanced” ITF. In “enhanced” ITF, the monetary policy framework continues to adhere to an inflation target as the overriding objective. The main characteristics of ITF remain: the inflation target is announced publicly, and the monetary policy is forward-looking, transparent, and clearly accountable. However, ITF is implemented in a more flexible manner, in the sense that Bank Indonesia must not only look at the inflation target merely in terms of policy formulation but also consider a number of other factors, including the financial sector stability and the dynamics of capital flows and the exchange rate.

The next section presents the monetary policy framework that was operative before the GFC, touching on policy instruments, targets, and objectives, which are inherent in the strategy for building policy credibility. The third section elaborates on the impacts of the recent GFC and changes in the financial environment with regard to the monetary policy transmission mechanism. The fourth section offers arguments regarding a strategy for enhancing the monetary policy framework from an unconventional wisdom perspective. It details a preliminary design for a post-GFC monetary policy framework for Indonesia, i.e., “enhanced” ITF. The final section of this chapter presents our conclusion.

2. Monetary policy framework

2.1. Monetary policy framework before the Asian financial crisis of 1997–98

The types of monetary policy frameworks adopted by Indonesia over time have been highly influenced by the stage of financial sector development. Before the 1983 financial deregulation, Indonesia’s system was less developed and was characterized 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 whereby the government determined lending priorities for economic sectors, activities, and beneficiaries.¹

In June 1983 the Indonesian government announced the removal of credit ceilings for all banks and the 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, which compelled the government to act to promote domestic savings as a means of financing development. Furthermore, removal of financial repression would improve financial sector efficiency and attract offshore deposits. Finally, abolishing credit allocations was expected to improve efficiency in the use of capital.²

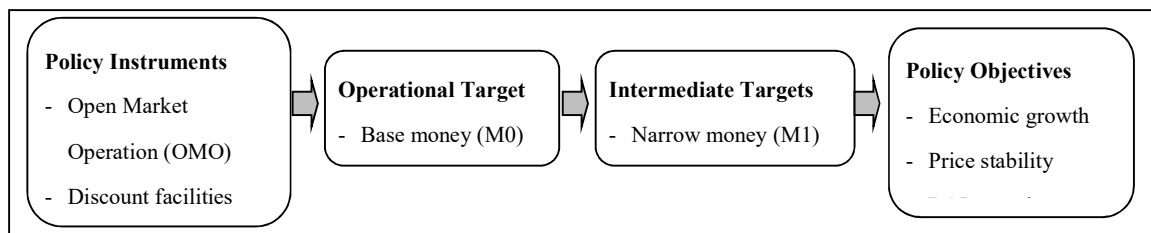
In October 1988 the government launched a more aggressive financial sector deregulation, whereby the reserve requirement was substantially reduced, from 15 percent to 2 percent. Reintroduction of the reserve requirement as an instrument of monetary policy was indirectly intended to control bank credit in light of the surge in capital inflows. The new

provisions also reinforced the ability of monetary policy to influence bank balance sheets.³

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.

Despite substantial changes in monetary operation, the monetary policy objectives remained the same: price stability (low inflation), sustainable economic growth, and a sound balance of payments (BOP). To achieve these multiple objectives, Bank Indonesia adopted an indirect monetary policy management approach, utilizing several key instruments such as open market operation (OMO), discount facilities, and a reserve requirement. The monetary operational target was defined in terms of base money (M0). Monetary policy transmission was seen as originating from base money, through monetary aggregates as intermediate targets, such as narrow money (M1), consisting of currency and demand deposits, and broad money (M2), consisting of M1 and time deposits, to output and inflation (Table 3). 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, in order to monitor the M0 direction.⁴

Table 3. Monetary policy framework before the Asian financial crisis of 1997–98



Source: Warjiyo and Juhro (2003), modified.

Despite the apparent effectiveness of the monetary policy framework in the 1990s, when M0 was used as the policy target, in the subsequent period this approach faced a number of serious challenges.⁵ Some concerns arose over the difficulties confronting policymakers in controlling M0 growth. These are attributed to three important factors (Budiono, 1994; Sarwono and Warjiyo, 1998; Goeltom, 2008): *First*, the money markets for the instruments were relatively thin and fragmented. The central banking certificates (Sertifikat Bank Indonesia [SBIs]) were mostly held by state banks, and Bank Indonesia experienced difficulty in

controlling economic liquidity through indirect use of these instruments.⁶ *Second*, at certain times, M0 is *endogenous* toward output. During periods of upswing in the economy, M0 growth is driven mainly by aggregate demand reflected as growth in foreign borrowings and drawing of funds from SBIs. *Third*, there was growing instability in the relationship between nominal income and money. With the rapid development of Indonesian financial markets, banking operations and products have varied in terms of different forms of money market instruments. On the other hand, the capital market developed so rapidly, both in transaction volume and the types of securities traded, that there was a tendency to decouple the financial sector from the real sector, leading to a weakening of the relationship of money with inflation and real output.

2.2. Monetary policy framework during the Asian financial crisis of 1997–98

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 the rupiah, the crisis led to an unprecedented economic collapse. In 1998 the economy shrank by 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 extremely tight money policy through sharp and dramatic increases in interest rates while also suspending activity in expansionary instruments.

Soaring interest rates and steep depreciation dealt severe blows to banks and the real sector. Already in a fragile condition, banks saw rapid deterioration in asset quality, and 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. 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, therefore, was to restore confidence in the national currency. To achieve this aim, 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.⁷

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 through OMOs.⁸ Another innovation in enhancing monetary policy operations was “rupiah intervention”. This was introduced as a means of monetary restraint and as a fine-tuning instrument to counteract interest rate volatility in the interbank money market. Rupiah intervention thus not only served as a contractionary instrument but also as a way to promote monetary expansion. Attempts to control the monetary expansion arising out of liquidity support originating in government expenditures were also supported by sterilization in the foreign exchange market, which simultaneously increased the supply of foreign exchange, thereby helping to stabilize the domestic currency.

To summarize, Bank Indonesia adopted base money targeting following the crisis as a temporary framework that was aimed primarily at absorbing the monetary expansion originating out of liquidity support, rather than for more fundamental considerations such as maintaining a stable relationship between inflation and base money (Iljas, 1999).

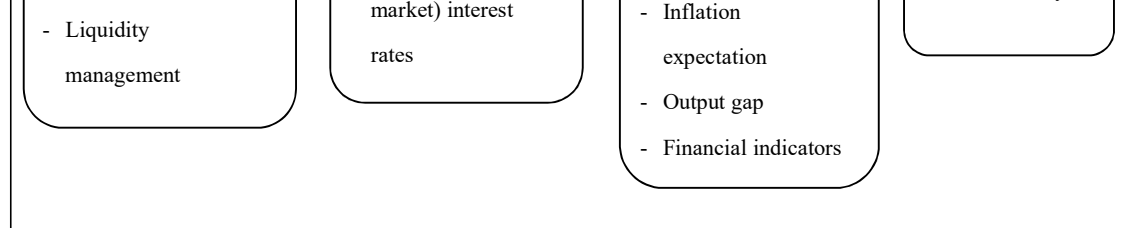
2.3. ITF in the period after the 1997–98 Asian financial crisis

In the aftermath of the crisis, a groundbreaking change in the conduct of monetary policy came with a new Bank Indonesia establishment law prescribing full independence for the central bank with regard to policy formulation and implementation (Bank Indonesia Law of 1999). The most important provision in the law, other than that legally establishing Bank Indonesia as an autonomous state institution free from government intervention, was the provision setting forth a single monetary policy objective of *achieving and maintaining stability of the rupiah*. Toward this end, the law empowered Bank Indonesia to execute monetary policy by setting monetary targets – with due consideration given to the inflation target – and managing monetary aggregates. In other words, Bank Indonesia was vested with both *goal independence* and *instrument independence*. Another important change instituted by the new law was to prohibit the central bank from financing government deficit spending and from purchasing government bonds on the primary market. However, the central bank was permitted to buy bonds on the secondary market for monetary policy purposes.

Following an ITF transition period between 2000 and 2005, Bank Indonesia formally adopted the ITF in July 2005, with a more transparent communications strategy aimed at strengthening monetary signals through the use of interest rates, in particular, through the Bank Indonesia Rate (BI Rate) as the policy rate and the short-term money market rate as the operational target.⁹ Under this new framework, Bank Indonesia envisages strengthening of the policymaking and implementation mechanisms through a forward-looking strategy for pursuing the inflation target. This, as 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 driven to a significant extent by supply factors, bringing inflation down by influencing expectations will have minimal impact on overall demand.

The decision to use 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, urgency, 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 signaling 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 produce optimum results in policy signals only if public expectations are forward-looking.

Table 4. Inflation targeting policy framework in the period after the 1997–98 Asian financial crisis



Source: Warjiyo and Juhro (2003), modified.

To this end, the main priority for Bank Indonesia is to build credibility through the following actions (Goeltom, 2008):

1. 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.
2. 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 ensue only if the policy is clearly and consistently implemented in line with deviations of expected inflation from the target.
3. Decision-making processes within Bank Indonesia are strengthened 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 in each quarterly board meeting as the basis for deciding the BI Rate for achievement of the inflation target.¹⁰
4. Regular press releases and press conferences are held to announce the decisions of the board meeting. These are supplemented by a quarterly Monetary Policy Report presenting an overall assessment of macroeconomic, inflation, and monetary conditions; the inflation forecast; and the monetary policy responses necessary to keep inflation on track with the target.
5. Policy coordination with the fiscal authorities is being strengthened. 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.¹¹

Going forward, implementation of monetary policy must ultimately be balanced between flexibility on one hand and credibility and transparency on the other. Within these bounds, some discretion will be needed in order to address Indonesia's short-term problems. However, excessive flexibility – which could, for example, give rise to unclear changes in policy decisions – would undermine the credibility and policies of the central bank. Looking ahead, it can only be expected that consistent commitment and determined implementation will

be essential to the realization of a more credible ITF. Meanwhile, despite progress having been made since the crisis, the economy is still burdened by various constraints and problems. The main challenges confronting the Indonesian economy are maintaining stability amid rising global uncertainty and reducing unemployment and poverty through accelerated growth. In this regard, the challenge in monetary policy is to contain rising inflationary pressures without impeding economic growth.

3.Changes in the financial environment and monetary policy transmission

No one could have foreseen that the impact of the GFC would propagate so rapidly and deeply. The crisis – triggered by the subprime mortgage debacle in July 2007, which quickly brought about the bankruptcy of a number of international financial institutions, such as Lehman Brothers in September 2008 – has seriously undermined the global economy in a short period of time. A number of policies were implemented in order to stabilize the financial sector and to reduce adverse impacts on the real sector. While some of these policies were conventional, other measures taken showed more initiative in comparison to those introduced during the Great Depression and the Japanese recession in the 1990s (Reinhart and Rogoff, 2009). Numerous fiscal policy stimulus packages were implemented, although they were also overshadowed by increasing future debt risk.¹² A loose monetary policy was implemented in the form of reducing central banks' policy rates to extremely low levels. This was followed by a quantitative easing policy.¹³ Meanwhile, fund insurance policies to maintain financial system stability were implemented, not only through expanding the insurance cover but also through fully guaranteeing funds and injecting capital into troubled financial institutions (bailouts).

Unlike many others, the Indonesian economy was able to navigate a challenging 2009 with remarkable success. Despite having slowed compared to 2008, economic growth reached 4.5 percent in 2009, the third highest in the world after China and India. Further slowing of economic growth amid global economic contraction was avoided owing to the predominantly demand-driven structure of the economy. After the daunting pressures sustained in the first

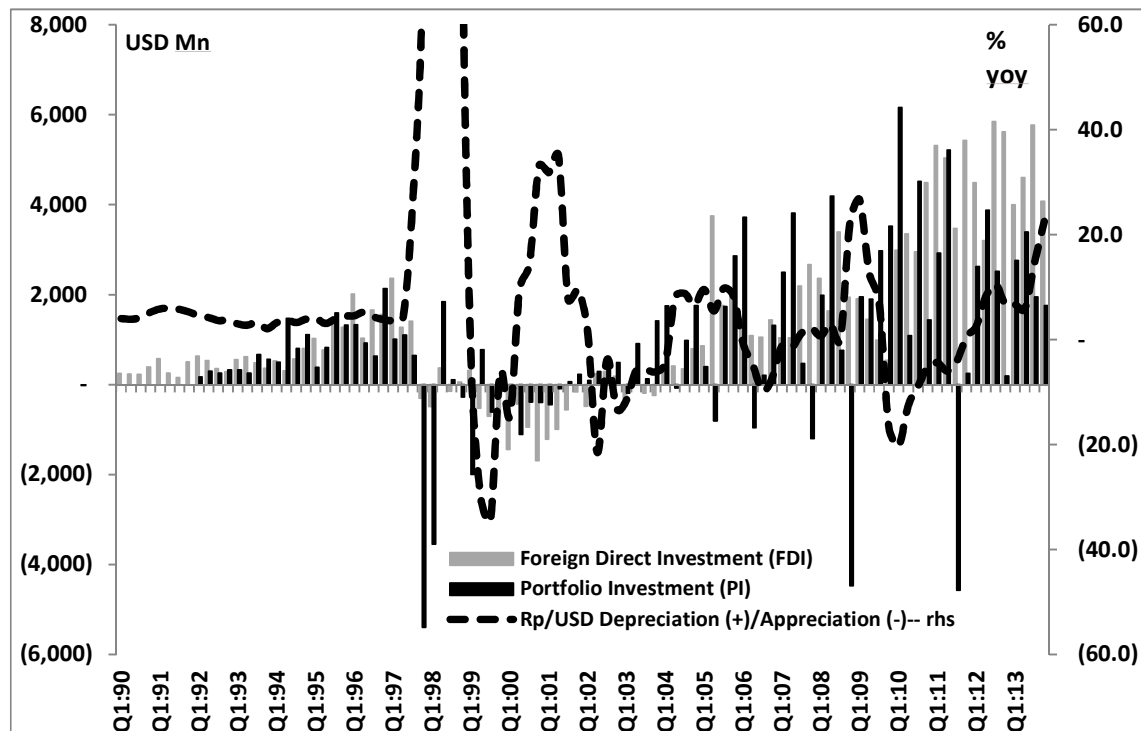
quarter of 2009, financial markets and macroeconomic stability also improved toward the end of 2009. These positive achievements were closely linked to a number of policies, both conventional and unconventional, adopted by Bank Indonesia and the government to safeguard macroeconomic and financial stability and prevent a further decline in economic growth through monetary and fiscal stimulus.

However, despite these positive achievements, the Indonesian economy is still confronted with some major policy challenges that have significant implications for monetary policy management. Some of these challenges are related to the dynamics of capital flows and the exchange rate, or to changes in financial sector behavior amid persistent excessive banking liquidity.

3.1. Dynamics of foreign capital flows and exchange rate

As a small open economy, Indonesia faces a number of challenges in its implementation of monetary policy relating to its recent and persistent inundation by foreign capital flows. First, the deluge of foreign capital inflows has encouraged rupiah appreciation, which could potentially undermine purchasing power and the current account. An open capital account, coupled with an influx of capital flows, ensures that capital flows, rather than the current account, tend to predominantly affect exchange rate behavior. Accordingly, capital inflows drove nominal rupiah appreciation up by 15.9 percent in 2009 and by 4.5 percent in 2010 (Table 5). Risk of the exchange rate overshooting has been mitigated by Bank Indonesia through foreign exchange market intervention. In real terms, the value of the rupiah appreciated by 17.8 percent in 2009 and by 11.4 percent in 2010, even though the currency remained relatively competitive compared to those of a number of other Asian countries.

Table 5. Capital flows and exchange rate depreciation/appreciation



Source: Bank Indonesia, Indonesia Financial Statistics.

Second, capital flow volatility creates financial system vulnerability. Capital flows that fluctuate widely compared to the capital account, amid ubiquitous herd behavior, encourage excess flows that can reverse suddenly in the event of a change in market sentiment. Moreover, an increase in capital flows, especially over the short term, can amplify financial market volatility and, in turn, act as a shock amplifier. These consequences could be further exacerbated by weak infrastructure and a lack of financial deepening, as is often found in developing countries like Indonesia. This can be reflected by some indicators, such as a low credit to gross domestic product (GDP) ratio and shallow markets in non-banking instruments (Table 6). Amid that lack of financial deepening and investment opportunities, a significant portion of capital inflows tends to be directed toward short-term financial instruments, such as SBIs, government bonds (Surat Utang Negara [SUNs]), and stocks, which are particularly vulnerable to any sudden reversal.

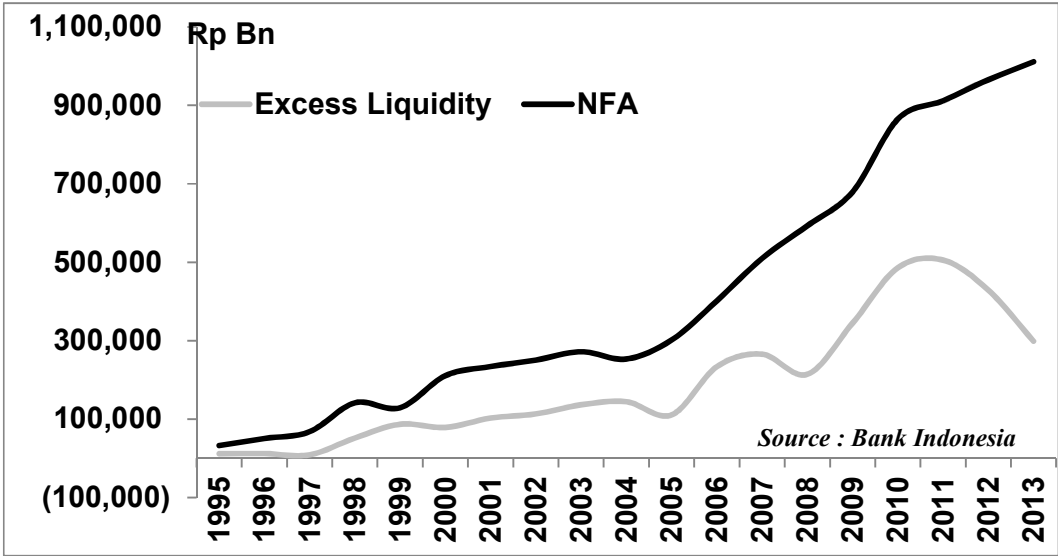
Table 6. Indicators of financial deepening and foreign ownership

Rp Bn	Banking Credit		Government Bond			Central Bank Certificate			Stock		
	Level	% of GDP	Level	% of GDP	% of Foreign Ownership	Level	% of GDP	% of Foreign Ownership	Level	% of GDP	% of Foreign Ownership
1990	95,704	0.5									
1995	234,611	51.6	-	-	-	-	-	-	-	-	-
2000	269,000	19.4	-	-	-	-	-	-	-	-	-
2004	555,236	24.2	402,099	17.5	2.7	102,731	4.5	7.7	291,393	12.7	73.0
2005	698,695	25.2	399,839	14.4	7.8	72,237	2.6	20.5	342,034	12.3	73.0
2006	796,767	23.9	418,751	12.5	13.1	207,400	6.2	8.7	522,341	15.6	73.4
2007	1,004,178	25.4	477,750	12.1	16.4	267,710	6.8	10.9	790,839	20.0	66.4
2008	1,313,873	26.5	525,690	10.6	16.7	166,714	3.4	3.9	446,178	9.0	67.8
2009	1,446,808	25.8	581,750	10.4	18.6	255,520	4.6	17.3	772,572	13.8	67.1
2010	1,783,601	27.7	641,220	9.9	30.5	200,110	3.1	27.4	1,184,282	18.4	62.8
2011	2,223,685	30.0	723,620	9.8	30.8	119,780	1.6	6.5	1,251,886	16.9	60.0
2012	2,738,054	33.3	820,260	10.0	33.0	78,870	1.0	0.5	1,484,385	18.0	58.8
2013	3,322,683	36.6	995,250	11.0	32.5	91,390	1.0	4.1	1,475,474	16.2	62.9

Source: Bank Indonesia, Indonesia Financial Statistics.

Third, a surge in foreign capital inflows compounds the complexity of challenges faced in terms of domestic monetary management. Persistent foreign capital inflows undermine the efficacy of monetary management, given that a measure for managing liquidity in the economy, such as an interest rate increase, can ultimately be offset by the sheer magnitude of the capital inflows. On the other hand, in order to manage exchange rate appreciation pressures, high capital inflows should be responded to through intensive interventions, which cause the amount of excess liquidity in the banking system to increase significantly (Table 7).¹⁴ These capital flow dynamics can reduce the degree of monetary policy autonomy to respond to external forces (Juhro, 2010b) and consequently shift the orientation of monetary policy, which not only works to control inflation but also mitigates rupiah appreciation through intensive intervention.

Table 7. Net foreign assets and excess liquidity



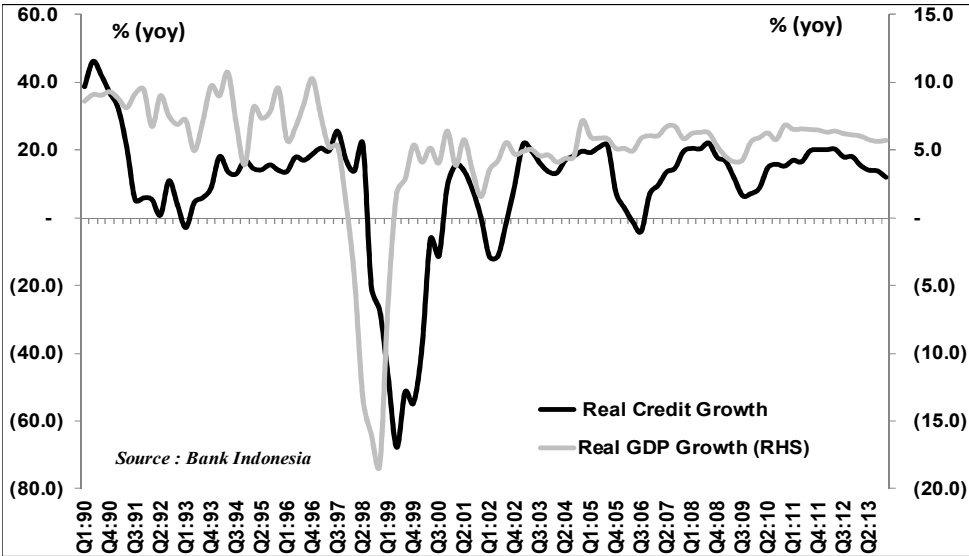
Source: Bank Indonesia, Indonesia Financial Statistics.

3.2.Changes in financial sector behavior and procyclicality

Financial sector procyclicality also becomes more prevalent when driven by foreign capital inflows. Capital will flow into an economy when the outlook is favorable and will flow out of an economy during a contractionary phase (Ocampo, 2008). Consequently, the financial sector tends to exacerbate economic fluctuations. In Indonesia procyclicality is reflected in the performance of bank credit during expansionary and contractionary phases. Observing credit growth during periods of expansion and contraction reveals the magnitude of procyclicality in

the Indonesian banking system. Table 8 shows that real credit moves procyclically and outpaces GDP growth during expansionary periods but that the opposite is true during a contractionary phase. As an example, following the crisis of 1997–98, the ongoing credit crunch, namely, risk aversion by banks in terms of extending credit, undermined the already sluggish economic recovery process in Indonesia. Subsequently, from the beginning of 2002, credit expanded gradually before ultimately contracting sharply in line with the economic slowdown in the wake of fuel price hikes in 2005. After plummeting to its trough in 2006, credit steadily rebounded to peak at 38 percent in the third quarter of 2008. That period perfectly illustrates a cyclical upswing on the back of rising international commodity prices and confidence among economic players in both the banking sector and the real sector.

Table 8. Growth of real GDP and credit



Source:

Bank Indonesia, Indonesia Financial Statistics.

Risk behavior also contributes to procyclicality in the financial sector. Similar to the findings proposed by Borio et al. (2001), a disproportionate response by market players in terms of risk evaluation will heighten procyclicality. Market players and banks generally tend to be overly optimistic during a propitious economic cycle and overly pessimistic during an unfavorable cycle. In the case of Indonesia, a study conducted by Satria and Juhro (2011) found that the risk perception of market participants and the level of risk in the banking sector played significant roles in inducing procyclicality and monetary policy transmission.

3.3. Workings of the monetary policy transmission mechanism

Theoretically, the monetary policy response is transmitted through a number of channels such as interest rates, money, credit, asset values, and the exchange rate. In normal circumstances, monetary policy is expected to be capable of directing economic activities effectively. In the case of the Indonesian economy, some observations show that monetary policy transmission in Indonesia has performed well in the financial market and the real sector (Warjiyo and Agung, 2002). During the ITF implementation era, when monetary policy prioritized the interest rate as its operational target, a policy signal would be transmitted through policy interest rate setting, namely, the BI Rate. Given this signal, through use of various monetary instruments to manage liquidity in the money market, the Bank Indonesia's monetary policy would be transmitted through various channels, which in turn would affect domestic demand and inflation.

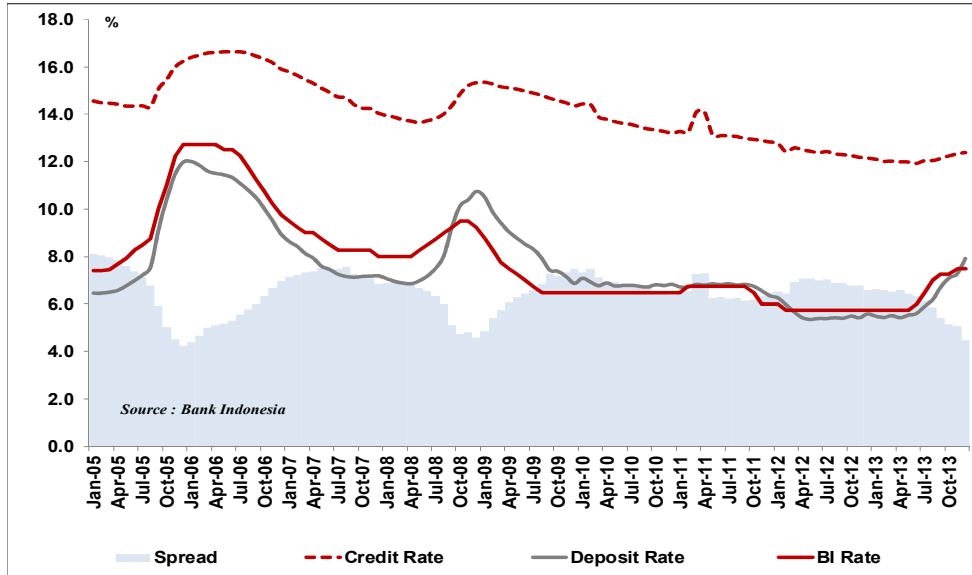
However, the global economic downturn and changes in financial sector behavior forced the monetary policy transmission process to grapple with some challenges. The spreading effects of the crisis were strong enough to drive down the economy, and they pushed economic actors, mainly in the banking industry, to become more prudent and risk averse. This was quite common due to the fact that the financial system tends to be procyclical and that, in a crisis period, such behavior can be further reinforced by the existence of a financial accelerator. Amid the persistent excess liquidity and the lack of response on the supply side – which reduced the effectiveness of policy stimulus transmission toward the real sector – monetary policy transmission through use of the interest rate and credit channels was weakened. Meanwhile, weak assumptions about the role of the exchange rate as a shock absorber, in a financial system that is not fully efficient, created a need to position the exchange rate as an important factor at the heart of Indonesian monetary policy strategy.

Interest rate and expectation channels

The ability of Bank Indonesia to steer the BI Rate so as to influence interest rates in the money market and the banking sector has improved over time. Initial assessment of the hypothesis of the *term structure of interest rates* during the ITF implementation era shows that, generally, monetary policy transmission via the interest rate channel is effective.¹⁵ However, during a crisis period, the lending rate response to a BI Rate decline tends to be rigid. In this regard, the magnitude of a decline in the lending rate turned out to be smaller than that of the decline of the BI Rate and the deposit rate. Observation also shows that the gap between the lending rate

and the deposit rate widened. The same can be seen with respect to the gap between the base lending rate and the BI Rate (Table 9).

Table 9. BI Rate and market interest rates



Source: Bank Indonesia, Indonesia Financial Statistics.

From a micro-banking perspective, there are some factors contributing to the rigidity of lending rate movement: namely, the cost of funds and risk premiums that tend to rise, and a relatively higher profit margin set by the banks. An initial observation indicates that the decrease in the aggregate banking cost of funds throughout 2009 tended to be slower than the BI Rate decline. Furthermore, as risk premiums in the economy were still perceivably high in 2009, there was an indication that the banking industry preferred to maintain its profit margins. Efforts to strengthen the internal conditions of banks by competing to attract public funds, charging greater business risk premiums (*risk aversion*), and also accumulating profit seemed contradictory to macroeconomic developments, as the real sector was still going through a recovery process. This condition could be perceived as banking prudential efforts given the still nascent improvement in global financial markets.

Banking excess liquidity, which tends to be persistent, is another factor that could explain the unusual response of interest rates. Persistent and structural excess liquidity is deemed to be a burdensome challenge to implementation of a monetary operation. Such a challenge, if not well managed, will take a toll on high volatility of the money market interest rate, which in turn will undermine exchange rate stability and the effectiveness of monetary

policy transmission. Some observations show that if banking excess liquidity fails to be absorbed by the authority, this could exert pressure on monetary stability, inflation, and the exchange rate.

Amid the policy transmission impairments, an initial observation shows that during the ITF implementation era, Bank Indonesia's monetary policy predictability was quite good. During the period of December 2005 to February 2012, the degree to which financial market participants correctly predicted the monetary policy stance was 83 percent. This is comparable to the prediction accuracy levels for other Asian countries that were implementing ITF, which varied between around 70 percent and 85 percent. Meanwhile, amid uncertainties in the global economy, which escalated in the second half of 2012, the monetary policy stance became less predictable. A recent observation also suggests that the existence of the BI Rate is sufficiently feasible as an anchor for future inflation expectations. Changes in the BI Rate have a positive impact on changes in inflation expectations. Meanwhile, if market perception of the monetary policy stance goes in the wrong direction, market participants can make appropriate and immediate adjustments, within around one to two months.

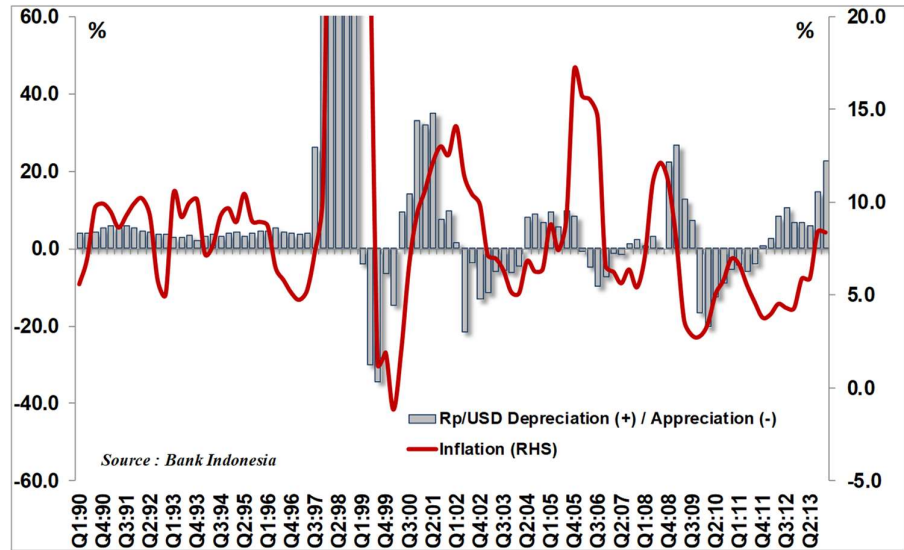
The exchange rate channel

In the early stage of ITF implementation, the exchange rate was regarded only as an information variable in the implementation of monetary policy. However, taking into account the increasing integration of global financial markets, exchange rate management is directed toward accommodating the dynamics of the exchange rate, which is not allowed to float freely and follow the market mechanism. In this regard, the exchange rate should be geared so as to align with the economic fundamentals through measurable interventions in the foreign exchange market. This is a reasonable strategy in that it takes into consideration the role of the exchange rate, which tends to serve as a shock amplifier rather than as a shock absorber, while its passthrough effect on inflation is also expected to remain significant.

Previous observations for the period before the GFC showed a substantial passthrough effect of the exchange rate on inflation. Kurniati and Permata (2008) argued that the passthrough would matter at a certain threshold of exchange rate depreciation, which was 4.2 percent (monthly). If the exchange rate changes were above that threshold, then the effect on inflation would be quite significant. Meanwhile, the estimation of the passthrough coefficient in general conditions, below the threshold, is relatively small. Machmud (2008) disaggregated the general price into tradable and non-tradable prices and suggested that, in the long run, 1

percent depreciation in the exchange rate would lead to a 0.3 percent increase in the tradable price. For non-tradable prices, 1 percent depreciation in the exchange rate would lead to only a 0.18 percent increase. Meanwhile, a recent assessment incorporating the post-GFC period showed that 1 percent depreciation in the exchange rate could lead to an inflation increase of only 0.15 percent (Juhro and Affandi, 2012). This result most likely stems from the declining trend in global commodity prices, together with an exchange rate management strategy implemented by Bank Indonesia that has allowed the rupiah to stabilize in recent years, thereby neutralizing the effects of external shocks, via the exchange rate, on inflation (Table 10).¹⁶

Table 10. Exchange rate depreciation/appreciation and inflation



Source: Bank

Indonesia, *Indonesia Financial Statistics*.

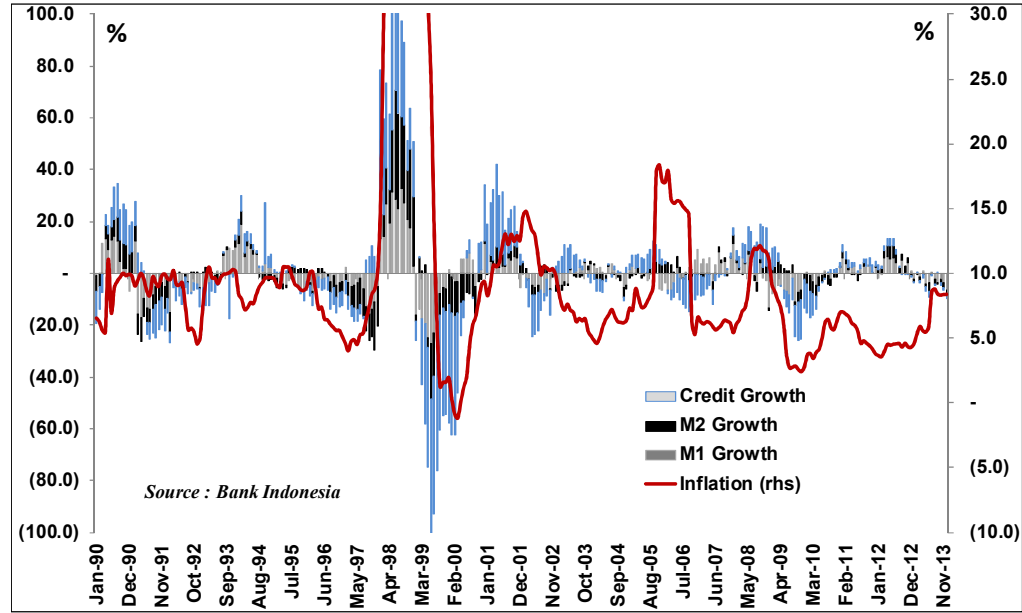
Money and credit channels

Monetary aggregates (e.g., money and credit) play a pivotal role in the monetary management regime in Indonesia. Although there has been no monetary targeting framework formally in place since the early 2000s, empirical observations indicate that money and credit mattered in the period following the crisis of 1997–98, which is reflected in the behavior of credit and M1

growth (gap) preceding that of inflation (Table 11).¹⁷ In this case, the average lead time of M1 growth to inflation was around five to six quarters, while the average lead time of credit growth to inflation was about three months (Juhro, 2010a). This finding is in line with that of

a previous study (Anglingkusumo et al., 2009), which illustrated the significant role played by monetary aggregates, in this case the non-cash component of M1 (demand deposits), in predicting future inflationary pressures. Using business cycle analysis, the study concluded that the lag effect of demand deposits against the turning point of the consumer price index inflation rate is about four to six quarters.

Table 11. Growth of monetary aggregates and inflation



Source: Bank Indonesia, Indonesia Financial Statistics.

Related to the important role of money, one can observe another important aspect from the asset side of the central bank balance sheet. A preliminary observation concluded that Bank Indonesia’s policy strategy to foster foreign reserves contributed to the increase of liquidity in the banking system and disrupted the effectiveness of monetary policy in the period of ITF implementation (Mochtar and Kolopaking, 2010). The problem might have become more severe because the policy strategy could not reduce inflation to a lower level, whereas, on the other hand, it could induce the exchange rate to act as a shock amplifier for the economy.

The above empirical facts provide a strong argument as to why the monetary authority needs to properly monitor monetary developments, including credit. In this case, management of liquidity should be aimed at working toward a level of monetary aggregate growth that is in line with the economic capacity. Meanwhile, despite the tendency of the behavior of M2, which is less stable, the information value of overall money growth remains noteworthy, given its influence on the formation of expectations.

4. Post-GFC monetary policy framework

Post-GFC challenges have revealed some valuable lessons for monetary policy implementation in Indonesia. First, the multiple challenges facing monetary policy as a result of a deluge of capital inflows suggest that Bank Indonesia should employ multiple instruments. Such an instrument mix would allow Bank Indonesia to address multiple dilemmas. In the face of capital flows, while the exchange rate should remain flexible, it should be maintained in such a way that the exchange rate is not misaligned with its fundamentals. Concomitantly, measures are required for accumulation of foreign exchange reserves as self-insurance, given that short-term capital flows are particularly vulnerable to sudden halts. In terms of capital flow management, a variety of policy options are available to deal with the excessive procyclicality of capital flows, especially short-term and volatile capital. Regarding monetary management, the dilemmas have been partially resolved through application of quantitative-based monetary policy to support the standard interest rate policy instrument. In addition, macroprudential policies aimed at maintaining financial system stability should also be adopted in order to mitigate the risk of asset bubbles in the economy.

Second, while price stability should remain the primary goal of Bank Indonesia, the GFC demonstrated that maintaining low inflation alone, without preserving financial stability, is insufficient to achieve macroeconomic stability. A number of crises that have occurred in recent decades also show that macroeconomic instability is primarily rooted in financial crises. Financial markets are inherently imperfect and can potentially generate excessive macroeconomic fluctuations if not well regulated. Therefore, the key to managing macroeconomic stability is managing not only the imbalance of goods (inflation) and externalities (balance of payments) but also any imbalance in the financial sector, such as excessive credit growth, asset price bubbles, and the cycle of risk-taking behavior in the financial sector. In this regard, Bank Indonesia will be effective in maintaining macroeconomic stability if the bank also has a mandate to promote financial system stability. Hence, the monetary policy framework of the ITF needs to be enhanced by including the substantial responsibility of financial sector control.

Third, exchange rate policy should play an important role in the ITF of a small open economy. According to a standard ITF, Bank Indonesia should not be attempting to manage the exchange rate. This benign view argues that the exchange rate should be allowed to float freely, thereby acting as a shock absorber for the economy. However, in a small open economy with open capital movement, exchange rate dynamics are largely influenced by investor risk perception, which triggers capital movements. In this environment, there is a case for managing the exchange rate in order to avoid excess volatility that could push the exchange rate beyond its inflation target band.

4.1. The relevance of the ITF

Many agree that the overarching goal of monetary policy should continue to be achieving price stability or low inflation. However, the problem is that, when confronted by the challenges summarized in the previous section, the standard ITF cannot be applied effectively. As an example, under the standard ITF, the interest rate is used as the sole monetary policy instrument, which subsequently affects aggregate demand and the output gap, with inflation expectations guided toward the inflation target. However, in an open economy, raising the interest rate is frequently ineffective because of the subsequent surge in capital inflows that add liquidity into the economy. Without sterilization, the additional liquidity will drive up inflation and trigger an asset bubble, which will affect financial system stability.

The crisis taught us that monetary policy must remain focused on price stability as the primary goal. The failures of advanced countries' central banks to avoid the worst effects of the global crisis were often reflected in the failure of monetary policies, which were narrowly focused on price stability. It cannot be denied that in the era known as the "great moderation", the global economy was able to maintain low inflation with sustained economic growth over quite a long period. However, the nascent consensus seems to indicate that achieving price stability is insufficient to guarantee macroeconomic stability overall because macroeconomic instability frequently stems from instability in the financial sector, even when inflation is maintained at a low level (Bean et al., 2010). The question is whether or not a monetary policy framework aimed at achieving price stability, e.g., ITF, is still relevant. The answer is a resounding "yes".¹⁸

Empirically, evaluations of ITF implementation in Indonesia over the past five years have yielded a number of noteworthy outcomes: (i) institutional strengthening of the monetary

policy decision-making process; (ii) clear monetary policy signals that affect inflation expectations; and (iii) increased policy credibility (Juhro et al., 2009). Referring to the institutional strengthening of monetary policy, implementation of ITF has institutionally improved Bank Indonesia in terms of its systematic implementation of monetary policy, in a structured manner and based on principles of good governance. This is evidenced by the policymaking process and procedures that are more transparent and utilize independent decision-making as well as having public accountability. As a public institution, Bank Indonesia has also changed from a previously internally oriented organization to a more outward-oriented organization that conducts intensive communication with the general public concerning its monetary policymaking.

Regarding policy signal clarity, through a gradual and ongoing learning process, buttressed by intensive communication with the public, the ITF has successfully bolstered monetary policy transmission through expectations. The general public increasingly understands the background behind monetary policymaking and more readily catch monetary policy signals, thereby strengthening and expediting monetary policy transmission. Such circumstances differ greatly from conditions before ITF implementation, when policy signals relied on base money, were not easily picked up by the market, and hence, under certain conditions, tended either not to alter expectations or, worse, to undermine expectations.

In harmony with the two successes detailed above, improved monetary policy credibility could slowly but surely be strived for. Several indicators support this conclusion. *First*, observations through surveys and empirical tests demonstrate that there is, or has been, a behavioral shift in public expectation formation, which previously tended to be backward-looking but is now more forward-looking. This has had a positive effect on reducing the degree of inflation persistence. *Second*, in line with nurturing sought-after credibility, Bank Indonesia regularly announces its policy stance, employing the BI Rate as a key economic indicator that is referred to by money market players and by the business community as a whole.

Nevertheless, achievement of the inflation target is not as straightforward as it may seem. A number of structural shocks on the supply side over the past eight years have pushed inflation beyond the target corridor set, more specifically in 2005 and 2008 (Table 12). In 2005 and 2008, inflation jumped to double digits as a result of government policy to raise fuel

prices.¹⁹ Meanwhile, in the other years, inflation slightly exceeded the target also owing to the impact of soaring prices for internationally traded commodities and weather anomalies that disrupted agricultural production. Looking ahead at potential inflationary pressures, it seems

unlikely that inflation will hit the long-term target of 3–4 percent in the near term. This situation closely parallels conditions in advanced countries and neighboring member countries of the Association of Southeast Asian Nations.

Table 12. Inflation target and actual inflation

Year	Inflation Target	Actual Inflation	Core Inflation	BI Rate	Underlying Factors
2005	6 ± 1	17.1	9.7	9.2	Global shocks, fuel price increases in March and October
2006	8 ± 1	6.6	6.0	11.8	
2007	6 ± 1	6.6	6.3	8.6	
2008	5 ± 1	11.1	8.3	8.7	Fuel price increase (May)
2009	4.5 ± 1	2.8	4.3	6.5	Global commodity price increase, weather anomaly
2010	4.5 ± 1	7.0	4.3	6.5	
2011	4.5 ± 1	3.8	4.3	6.0	
2012	4.5 ± 1	4.3	4.4	5.8	Fuel price hike (June 2013), weather anomaly, and exchange rate depreciation
2013	4.5 ± 1	8.4	5.0	7.5	

Source: Bank Indonesia. Indonesia Financial Statistics

In addition to structural constraints on the supply side, difficulty in achieving the inflation target is also linked to the complexities faced by Bank Indonesia in the monetary sector. As experienced over the past three years, in order to overcome the inundation of capital flows, so that excessive appreciation pressures are not levied on the rupiah exchange rate, Bank Indonesia has intervened to purchase foreign currency, thereby increasing the liquidity in the domestic money market. This contributed to excess liquidity, which subsequently had to be reabsorbed by Bank Indonesia in order to avoid future inflationary pressures. Of course, these efforts undertaken by Bank Indonesia to maintain macroeconomic stability were not without their own consequences, considering the magnitude of the monetary operational costs expended, which will ultimately affect Bank Indonesia's balance sheet. On the other hand, the problems are also increasingly emanating from the financial system, which is characterized by procyclical behavior. Therefore, efforts to maintain macroeconomic stability are inseparable from endeavors to reduce immoderate procyclicality. To this end, synergy between monetary policy and macroprudential policy should be sought.

4.2. Enhancement under unconventional wisdom on monetary policy

Although Bank Indonesia still sees ITF as a reliable monetary policy strategy for Indonesia, it needs to be enhanced by refining the future ITF implementation strategy. There are two rationales underlying such enhancement. *First*, evaluations of ITF implementation in Indonesia have evidenced the need for a number of adjustments to and refinements in the ITF, which have been undertaken in line with conventional wisdom on monetary policy. In this case, there is justification for the need to implement a less rigid ITF as an ideal format for the Indonesian economy (Juhro et al., 2009). *Second*, Indonesian economic performance during the GFC inspires confidence as to the aptness of the ITF as a reliable monetary policy strategy for Indonesia. However, given the dynamics and complexity of the challenges we are facing, the framework needs to be further enhanced.

There are five principles of enhancement:

1. Continuing adherence of the policy framework to inflation target as the overriding objective of monetary policy. The main characteristics of ITF will remain, e.g., preemptive, independent, transparent, and accountable policy implementation.
2. Integrating monetary and macroprudential policy. Appropriate monetary and macroprudential policy integration is required in order to buttress monetary and financial system stability.
3. Managing the dynamics of capital flows and exchange rates. To support macroeconomic stability, coordinated implementation of a policy instrument mix must ultimately be part of an important strategy for optimally managing the monetary policy trilemma.
4. Strengthening policy communication strategy as part of the tool chest of policy instruments. Policy communication is no longer practiced purely for the sake of transparency and accountability; it is now regarded as a valuable monetary policy instrument.
5. Strengthening Bank Indonesia and government policy coordination. Policy coordination is crucial given that inflation stemming from the supply side creates most inflation volatility.

Therefore, under the unconventional wisdom of “enhanced” ITF, to manage the monetary stability framework is indeed to manage the monetary policy trilemma and achieve the three intermediate goals of (1) maintaining monetary policy autonomy in achieving price stability by employing a monetary and macroprudential policy (instrument) mix; (2) stabilizing

exchange rate movement in line with its fundamentals by employing exchange rate management; and (3) managing capital flow dynamics to support macroeconomic stability by implementing capital flow management.

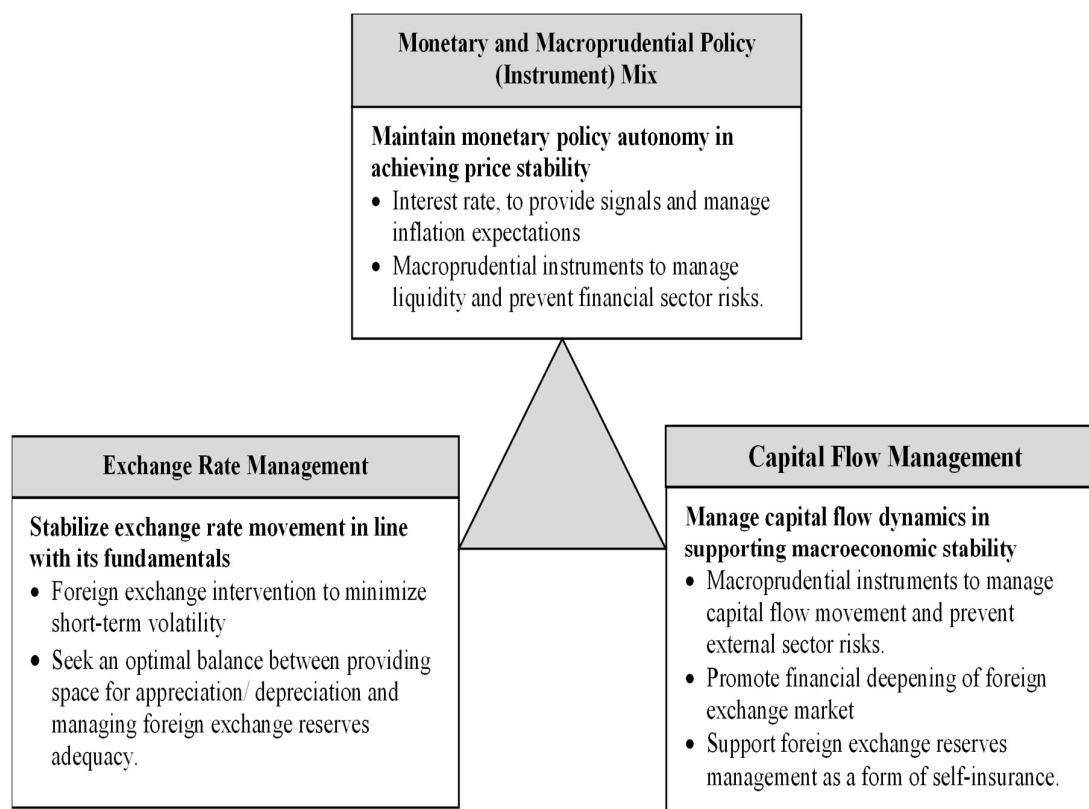
Monetary policy complexity stemming from the interest rate can partially be resolved by quantitatively applying tighter monetary policy through raising the reserve requirement. In addition, macroprudential policy is aimed at avoiding financial risks such as asset bubbles and excessive credit growth, which could trigger financial system instability. This type of macroprudential policy is effective if banks can intermediate capital flows. However, if the capital flows emanate directly from unregulated sectors, as in direct loans from the private sector, measures to control capital inflows are another option, for example, limiting private loans.

In terms of the exchange rate, the rupiah should be managed so as to remain flexible and should be allowed room to appreciate/depreciate. But it is also necessary to avoid the currency becoming misaligned with economic fundamentals as this would endanger macroeconomic stability. Consequently, Bank Indonesia's presence is required in the foreign exchange market in order to ensure that the rupiah does not deviate with excessive volatility. Of course, this option will no longer be available if the rupiah becomes overvalued. Simultaneous efforts to accumulate foreign exchange reserves are vital as a form of self-insurance, given that short-term capital flows are particularly vulnerable to risk of sudden reversal.

Regarding capital flows, in continuing to adhere to a free foreign exchange regime, macroprudential measures also consist of policy options designed to reduce excessive short-term capital flows that could potentially lead to financial risks from the external side. Such measures have been introduced by Bank Indonesia through regulations that oblige investors to hold SBIs for a minimum period of one month. This policy has helped to diversify foreign portfolio capital flows and to extend the durations of SBIs, which consequently also promoted financial deepening, especially in the foreign exchange market.

Coordinated implementation of a policy instrument mix is ultimately part of an important strategy for managing the monetary policy trilemma in the current climate, which is blighted by widespread uncertainty. Coordination is critical, not only to address the sources of imbalances from external and internal sides, but also to optimally manage the impact of monetary policy while avoiding overkill and mutual exclusivity (Table 13).

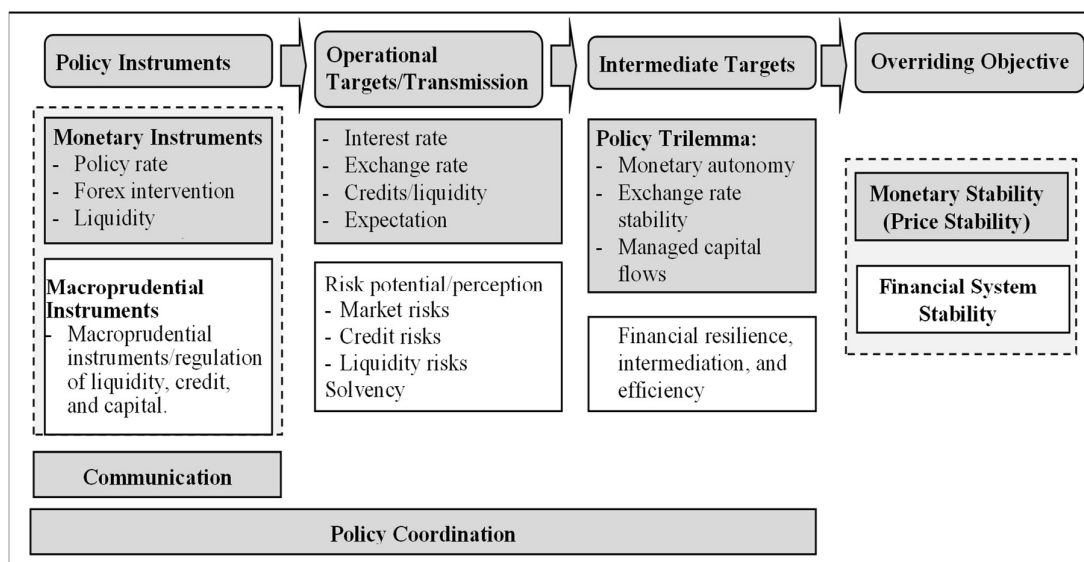
Table 13. Bank Indonesia monetary policy trilemma management



Within the above policy perspective, achievement of macroeconomic stability not only is tied to monetary stability (price stability) but also interacts with financial system stability. Therefore, the central bank’s policy formulation should evaluate the strategic role of monetary policy and the financial system at the same time. In this regard, under “enhanced” ITF, flexibility in policy implementation can be achieved through, among other means, additional macroprudential instruments in addition to monetary instruments, which should reinforce each other. While monetary instruments will be utilized to influence monetary variables, such as the interest rate, the exchange rate, credit, and expectations, macroprudential instruments will be utilized mainly to manage risk potential or perceptions in financial markets. In connection with measures for averting potential policy conflicts, it is important to prioritize policy objectives by setting price stability (inflation) as the overriding objective.

Improvement of the monetary framework under “enhanced” ITF, by means of a monetary and macroprudential policy instrument mix, can be described as shown in Table 14.

Table 14. Monetary policy framework under “enhanced” ITF



5. Conclusions

The challenges encountered after the financial crises of 1997–98 and 2008–09 have revealed some valuable lessons with regard to monetary policy. In a small open economy, such as that of Indonesia, the multiple challenges facing monetary policy as a result of capital flow dynamics, amid inflationary pressures, suggest that the monetary authorities should employ multiple instruments. This chapter shows that coordinated implementation of a policy instrument mix should ultimately be part of an important strategy for optimally managing the monetary policy trilemma in the current climate, which is fraught with widespread uncertainty.

It also shows that a post-GFC monetary policy framework in Indonesia is, generally, characterized by “enhanced” ITF. In “enhanced” ITF, the policy framework continues to adhere to an inflation target as the overriding objective of monetary policy. The main characteristics of ITF will remain, namely, that the inflation target is announced publicly and that the monetary policy is forward-looking, transparent, and clearly accountable. However, the ITF is implemented in a more feasible manner, which means that Bank Indonesia must not only look at the inflation target merely in terms of policy formulation but also consider a number of other factors, including financial sector stability and the dynamics of capital flows and the exchange rate. Therefore, achievement of macroeconomic stability not only is tied to monetary stability (price stability) but also interacts with financial system stability.

A change in the framework will have a number of significant implications for the institutional mandate of Bank Indonesia. The paradigm that monetary policy requires the support of macroprudential policy has the consequence of an inability to separate monetary policy from macroprudential policy in order to ensure effective implementation. Therefore, strengthening Bank Indonesia and government policy coordination in maintaining monetary and financial system stability is essential.²⁰

Policy coordination can also be carried out from a broader perspective, including during the process of handling a crisis. The 1997–98 financial crisis showed that any measures taken to handle a crisis without a clear authority and decision-making structure would only protract the process, potentially incur very high economic and social costs, and require a longer time for recovery. In a crisis management context, coordination or cooperation among central banks in the region can be established in order to formulate a kind of international financial safety net, for example, in the case of escalating external liquidity pressures that could destabilize the financial system in a particular country and potentially subsequently spread to other countries in the region. The moral is that strengthening the framework for maintenance of monetary and financial system stability is indeed necessary, but this must be underpinned by a crisis management framework that is clear, expeditious, and able to provide legal certainty.

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- ¹ The credit ceilings were criticized 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 (1994), 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 sterilized, were not under government control.
- ² In 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 mobilization. However, liquidity credit from Bank Indonesia was still available for high priority loans.
- ³ 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. In comparison, the former provision extended only to liabilities with a maturity of less than 24 months.
- ⁴ Under this policy, Bank Indonesia established an annual monetary program based on a money demand function in which money was related to the ultimate targets of output and inflation, as well as to interest rates. The program also set out the operational targets (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 (Sertifikat Bank Indonesia [SBIs]) and money market securities (Surat Berharga Pasar Uang [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, used in many countries for OMOs and repurchase transaction. SBIs were used not only in monetary operations but also in short-term management of liquidity for banks, companies, and individuals.

- 5 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 rollover of matured swaps. Monetary policy also operated through two types of discount window facility introduced in early 1984. 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 mismatches. In practice, these instruments proved ineffective. Banks appeared reluctant to avail themselves of the facilities due to the perception that use of lender of last resort instruments would be harmful to their reputations.
- 6 For example, in September 1984 interbank overnight rates soared to 90 percent per annum during a period of liquidity squeezing. On other occasions, to counteract speculation over impending devaluation in the second quarter of 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.

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- ⁷ To curb expansion in liquidity support, Bank Indonesia acted in April 1998 to impose stiff penalties on the discount window facilities and negative balances held by commercial banks at Bank Indonesia. In May 1998 Bank Indonesia announced a ceiling on deposit rates and the interbank rate guaranteed by the government to prevent banks from adopting imprudent measures that would lead to self-reinforcing expansions of liquidity support.
- ⁸ The first attempts to achieve the quantitative target involved improvements to the OMO mechanism. On July 29, 1998, Bank Indonesia changed the SBI auction system from emphasis on interest rate targets to quantitative targets. The scope of auction participants, formerly restricted to primary dealers, was 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.
- ⁹ For a comprehensive survey on the background to ITF implementation in Indonesia, see Alamsyah et al. (2001).
- ¹⁰ A number of methods, research tools, and economic models have been developed to assist with the board's analyses, forecasts, and policy recommendations. The 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.
- ¹¹ The Indonesian Government and Bank Indonesia have set up a team of senior officials from relevant government agencies and the central bank to set the inflation targets and monitor inflationary fluctuations.
- ¹² Fiscal stimulus packages are evidenced by the value of fiscal deficits, which surged in many countries in 2009. The average fiscal deficit for member countries of the Organisation for Economic Co-operation and Development (OECD) is projected at 7.2 percent of GDP compared to 3.0 percent in 2008 (OECD ,Economic Outlook , Vol.2009/1", p. 13). This rise was driven by the U.S. fiscal deficit of 10.2 percent of GDP, a sharp increase from 5.8 percent in 2008.

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- 13** As an illustration, the Fed Funds Rate in April 2009 was at the level of 0 to 0.25 percent, whereas the Euro Refinance Rate, European Central Bank (ECB), dropped to 1.25 percent.
- 14** Excess liquidity occurs where cash flows into the banking system *persistently* exceed withdrawals of liquidity from the market by the central bank. This is reflected in holdings of reserves in excess of the central bank's required reserves. In Indonesia excess liquidity is measured by the total amount of open market instruments owned by banks, consisting of SBIs, term deposits, reverse repo government bonds (SUNs), and deposit facility instruments.
- 15** Under an ITF regime with an interest rate as an operational target basis, the assumption applied is that through policy rate setting under a monetary operation (liquidity management), a central bank can affect current and expected money market overnight interest rates (shortest market interest rates), fund/credit market interest rates (longer-term interest rates), and thereby real economic activities.
- 16** An important role of the exchange rate in monetary policy strategy can also be seen from its significant impact in improving the performance of monetary policy responses, i.e., monetary policy rules. Estimation using a Taylor-type rule that takes into account the role of the exchange rate (a bending rule) outperforms a simple rule (Juhro and Mochtar, 2009). Empirical counterfactual exercises showed that the bending rule can better explain the dynamics of the monetary policy response in Indonesia.
- 17** The growth (gap) of monetary aggregates is measured as the difference between its actual growth and medium-term growth (based on the Hodrick–Prescott Filter).
- 18** Theoretically, an ITF policy framework oriented toward achieving low inflation and implemented with greater transparency is surely still relevant when the objective of monetary policy is to achieve price stability. Mishkin (2011), who holistically evaluated nine principles of monetary policy, including ITF, which had become a kind of consensus prior to the crisis, concluded that “none of the lessons from the financial crisis in any way undermines the nine basic principles of the science of monetary policy” (p.31).

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- 19** Fuel price hikes occurred twice in 2005, once in March by an average of 30 percent and then in October by an average of 96 percent. Furthermore, fuel prices were also raised in May 2008 by around 33 percent.
- 20** Starting in early 2014, banking regulatory and supervisory functions are under the Financial Services Authority (FSA; Otoritas Jasa Keuangan), no longer under Bank Indonesia. In this regard, Bank Indonesia still acts as the macroprudential authority, while the FSA acts as the microprudential authority. Bank Indonesia has the ability to assess macroeconomic and financial stability risks as well as global financial market developments, while the FSA has the ability to assess individual financial institution risks. Therefore, the macroprudential policy framework will inevitably involve these two institutions. This is due to the fact that the implementation of macroprudential policy requires consistency in the use of microprudential instruments. In order for the system to function properly, there must be close coordination between Bank Indonesia and the FSA.