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A joint publication of the
University of the Philippines
School of Economics
and the **Philippine Economic Society**



The BSP's journey towards a progressive monetary policy framework

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Bangko Sentral ng Pilipinas

This paper examines the evolution of monetary policy framework in the country. It starts the journey with the establishment of the central bank after the Second World War, when there was still no active monetary policy as the country operated on a fixed exchange rate system and supply-led credit programs. The paper describes the challenges with the implementation of monetary policy reforms in the 1980s, particularly the shift to a “managed float” exchange rate system and the adoption of monetary aggregate targeting framework in the context of deregulation and liberalization.

It further discusses the development of monetary policy framework and operations, following the creation of an independent Bangko Sentral ng Pilipinas (BSP) in 1993, with the primary mandate of maintaining price stability. It provides a narrative on how the monetary aggregate targeting framework was modified to its eventual shift to an inflation targeting (IT) framework. It highlights the relative success of IT and discusses the innovative approaches undertaken by the BSP to further enhance liquidity management. Moving forward, the BSP's monetary policy framework and operations will likely continue evolving and serving as steady anchors of macroeconomic stabilization. This will be guided by foresight, commitment to action and helpful lessons from the past, in the context of increased uncertainty.

JEL classification: E3, E4, E5

Keywords: monetary policy, inflation targeting, monetary targeting, inflation, interest rates, exchange rate, central banking, Philippines

1. Introduction

A modern central bank is now challenged by more deregulated and liberalized markets, heightened volatilities in asset markets, and rapid technological progress. While these milestones contribute to efficiency, they could also amplify

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uncertainties and risks for financial markets. Moreover, even as an economy goes through the business cycle, the depth and breadth of each cycle differ. The elements that define each cycle likewise vary and may call for different policy measures. Thus, adopting an agile, systems-oriented approach has become more critical. These developments require introspection and a constant re-examination of deep-rooted practices. The swiftness by which technological progress proceeds in the context of a more deregulated environment, therefore, requires monetary action that is forward-looking, focused, flexible, and deft (Sheng [2013]; Bagsic and Glindro [2006]).

At the core of modern central banking is monetary policy, which essentially seeks to safeguard the real value of money and its efficacy as a medium of exchange and store of value. In doing so, monetary policy helps achieve macroeconomic stability as embodied in proximate indicators of welfare notably, national income and inflation. The influence of monetary policy works through intermediate targets, which central banks do not have absolute control of [Koning 1986]. The distinction between an intermediate target and the day-to-day operational target is oftentimes ambiguous. As such, the intermediate target must be closely linked to the final objective, controllable by the central bank and measurable.

Central banking in the Philippines was breathed into life in 1948 when President Elpidio Quirino signed Republic Act (RA) 265. Reeling from the ashes of World War II, supply-driven credit programs and fixed exchange rate policy characterized the nascent financial landscape. Central banking then was rudimentary. There was no active monetary policy like we know in modern central banking because the central bank operated on a fixed exchange rate system and supply-led credit programs. The Philippines then espoused the creation of cooperative banks to spur growth and development. The creation of the rural banking system in 1952 signaled the country's early openness to supply-leading interventions and can be considered the earliest embodiment of the financial inclusion objective. From simple supply-led credit support systems in the aftermath of the second world war, the role and functions of the central bank evolved and matured with the changes in the economic and regulatory terrain [Tolentino et al. 2020].

In keeping with the times, monetary policymaking in the Philippines has strived to proactively respond to the demands of modern central banking. Just like any reform process, the monetary policy reform path was fraught with challenges. Many of the reform turning points were precipitated by a crisis. With learning, the reforms increasingly took on a more proactive and progressive stance. The tempo was slow at the beginning but started to quicken in the 1990s.

Interest rate ceilings were eliminated in the early 1980s, followed by the deregulation in the foreign exchange market in the 1990s. In between these two decades and notwithstanding the interest rate liberalization, the supply-driven credit programs that underlined the development financing function of the Central Bank of the Philippines (CBP) persisted.

The creation of an independent central monetary authority, that is, the *Bangko Sentral ng Pilipinas*, in 1993 put an end to development financing that hobbled its predecessor. In 1994, RA 7721, liberalizing the entry of foreign banks, was passed into law. Post 1998, reforms in financial disclosure rules, accounting standards, corporate governance standards, capital adequacy requirements, and the banking/securities industry structure have been institutionalized. A major reform of the General Banking Law was enacted in 2000, two years before the formal implementation of inflation targeting as the monetary policy framework of the BSP (Guinigundo and Cacio [2019]; Bagsic and Glindro [2006]).

2. First wave of monetary policy reform

After the collapse of the Bretton Woods arrangement and stagflation in the early 1970s, the global monetary order was in search of a workable monetary policy framework for credible control of inflation. Many central banks in advanced economies embarked on monetary aggregate targeting (MT). Emerging market central banks, however, opted to implement numerous direct controls on the exchange rate, lending and interest rates as well as augmented exchange rate fix [David 2018]. The disinclination may have stemmed from greater exposure to supply shocks and trade volatility, procyclicality of both domestic fiscal policy and international finance, lower credibility with respect to both price stability and default risk, and less developed or imperfect institutions [Frankel 2011].

During the 70s, the Philippines adopted a fixed exchange rate regime and a credit targeting framework that used interest rate controls and credit ceilings. There was no coherent policy focus on implementing monetary policy as it was saddled with multiple mandates and limited autonomy. While the central bank was accommodating the credit expansion of domestic banks and performing the lender of last resort function, it was also encumbered with fiscal concerns, including the channeling of resources to priority sectors. The lack of clarity and focus made for a fragile policymaking in times of political and economic instability.

The central bank was also involved in supply-driven credit programs, including large-scale lending with preferential interest rates. These resulted in financial pressures and imbalances that eventually became unsustainable. A massive capital flight accompanied by default on external debt service and wide-spread insolvency of domestic banks and enterprises led to financial crisis in 1983. This led to a two-year recession starting in 1984, the year when the highest inflation rate was recorded in history at 49.2 percent.

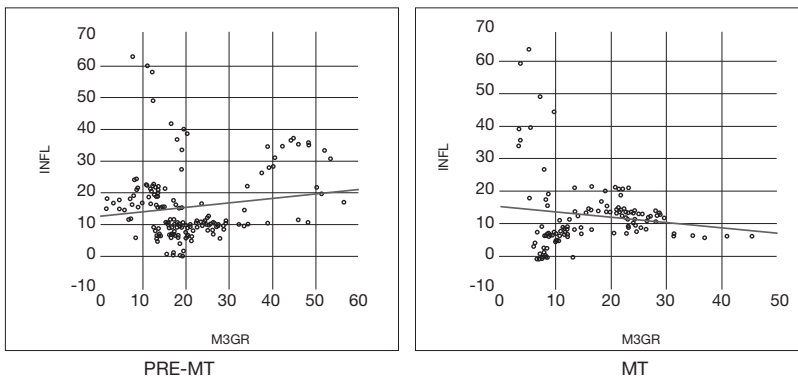
In response to the crisis, the country changed its monetary policy regime in October 1984, with a shift to the “managed float” exchange rate system and the adoption of MT framework. Under MT, the central bank placed greater emphasis on reducing inflation. It was accountable for achieving an announced monetary aggregate growth target that was needed to achieve a desired level of inflation.

The MT framework operates on the assumption of a stable and predictable relationship between and among money, output, and inflation. With an assumed stable velocity of money,¹ a change in money supply prompts a change in price or inflation. The effectiveness of monetary targeting is therefore contingent also on the stability of money demand. When money demand is stable, variations in its determinants are systematically associated with the fluctuations in money velocity, rendering the monetary aggregate as the natural operational target [Atkinson et al. 1984].

The Philippine central bank adopted the base money² as the operating target, the broad money or M3³ as the chief intermediate money target,⁴ and the open-market instruments and reserve requirements as main tools for monetary policy. The explicit announcement of a monetary target also helped in anchoring inflation expectations as this provided signals to the market on the monetary policy stance of the central bank [Guinigundo and Cacio 2019]. A year after the adoption of the MT framework, the country's inflation rate dropped to a single digit in November 1985 and this continued until end of 1987.

The focus on base money facilitated the restoration of monetary control over M3, which was closely related to inflation [Arora 2000]. The statistically significant positive correlation between the growth of M3 and inflation can be seen in the scatterplots and estimation results for pre-MT period whereas the insignificant negative correlation between the growth of M3 and inflation was obtained beginning the MT period.

FIGURE 1. Scatter plots of inflation rate (2012=100) and m3 year-on-year growth, 1971 to 2001

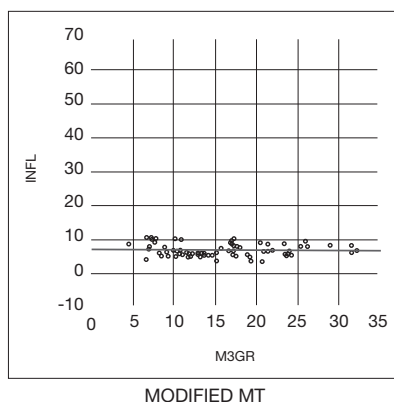


¹ Velocity of money is the rate or the average number of times per year that the money is spent in buying the total amount of goods and services produced in the economy [Mishkin 2004].

² Base money is the sum of reserve money, reserve-eligible government securities (including liquidity reserve) and reserve deficiency of banks, if any [Arora 2000].

³ M3 is narrow money (currency plus domestic currency demand deposits) plus quasi money (domestic currency time and saving deposits) [Arora 2000].

⁴ While broader monetary aggregates could predict future economic activity more accurately compared to narrowly defined monetary aggregates, the greater control of central bank on M3 made it a reasonable intermediate target of monetary policy [Lamberte 1984].



Source of basic data: Philippine Statistics Authority and Bangko Sentral ng Pilipinas

TABLE 1. Comparison of indicators in various periods of monetary targeting, 1971 to 2001

	Pre-MT	MT	Modified MT
Period	1971-1984 Sep	1984 Oct – 1995 June	1995 July – 2001
Correlation coefficient of M3 and inflation growth rates	0.14*	-0.13	-0.03
Inflation rate average (%)	15.6	12.3	7.0
Inflation volatility	11.1	10.5	1.8
Volatility of money velocity	0.1	0.2	0.1

* Statistically significant at 10 percent level

Volatility is measured in terms of standard deviation.

Money velocity is M3 velocity based on real Gross National Income and Consumer Price Index

Source of basic data: Philippine Statistics Authority and Bangko Sentral ng Pilipinas

The implementation of reforms in bank supervision, development of monetary policy instruments, and major reforms in public enterprises and banks in the second half of 1980s led to further improvement in the country's monetary operations.⁵ However, as the adverse impact of the financial crisis lingered, political instability and further external and domestic shocks led to double-digit inflation from 1988 to 1991 and an economic contraction in 1991. This resulted in the resurgence in balance sheet problems of banks that required another emergency assistance by the central bank.

The balance sheet of the old CBP was saddled by the accumulation of significant loss-making assets. The biggest losses were traced to the excess of interest expenses over interest income that arose from interest subsidies, off-budget loans, and assumption of foreign exchange liabilities of some domestic corporations

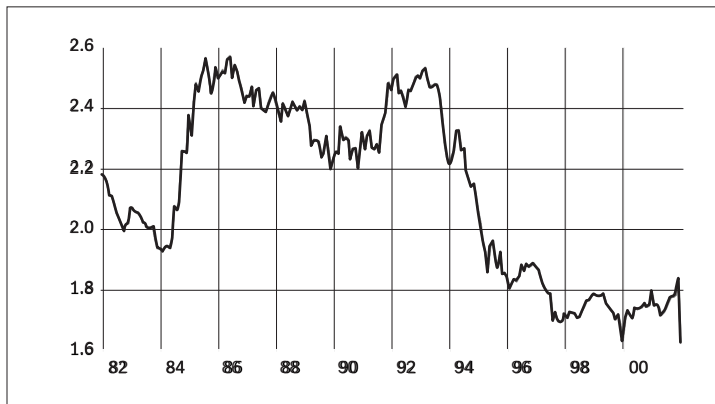
⁵ Op cit.

(government-owned-and controlled corporations and private companies), which should have been under the remit of fiscal policy. These heavy losses circumscribed the conduct of monetary policy and severely undermined the financial solvency of the CBP [Lamberte 2003].

In 1993, along with the country's renewed focus on macroeconomic stability and market-oriented reforms, the Bangko Sentral ng Pilipinas (BSP) was established as the new central bank. Starting with a clean slate, the BSP strengthened its operational independence with a well-defined primary mandate of maintaining price stability. This allowed for a more effective implementation of monetary policy and facilitation of financial intermediation, supported by reforms such as fiscal consolidation, privatization of government owned and controlled corporations, and financial liberalization [ibid]. The favorable policy environment resulted in the containment of inflation to a single digit level in 1993.

However, the confluence of financial liberalization, together with rapid innovations in the financial system (e.g., ATM, credit cards), macroeconomic cycles, external and domestic shocks, and financial crises had reduced the stability of money demand in the country. Lim [2008] noted that financial liberalization led to "structural breaks" in income velocity of money and volatilities in money multiplier and these weakened the link between monetary aggregates and inflation. Figure 2 shows the downtrend and volatile velocity of money.

FIGURE 2. Income velocity of money, 1981 to 2001



Note: M3 velocity is based on real GNI (2000=100) and consumer price index.
Source of basic data: Philippine Statistics Authority and Bangko Sentral ng Pilipinas

Monetary policy was made more complicated with increased capital inflows in 1994, which put pressure on the base money. As pointed out by Guinigundo [2005], the double-digit expansion of M3 in 1994 and 1995 was accompanied by a drop in the inflation rate from 12.5 percent in 1994 to 6.9 percent in 1995, an indication of a structural break. The reduced information content from M3 implied weakening of this monetary aggregate as a lever of monetary policy and as an indicator of the monetary policy stance [Guinigundo 1999].

As capital inflows exerted exchange rate appreciation pressures on exports, there was also increasing recognition within BSP that intervention was not the sole solution. Thus, BSP began raising the existing ceiling on outward investments without requiring prior BSP approval, limiting foreign loan approvals including foreign currency deposit unit loans to those earmarked for foreign exchange cost, adjusting the rediscount rate formula, and monitoring of foreign exchange inflows from initial public offerings. The BSP also took an active role in advocating for further liberalization measures such as the accelerated phase down of forward cover to oil companies.

To improve the effectiveness of monetary policy and provide the BSP with greater flexibility during periods of massive capital inflow, the MT framework was reworked to incorporate some elements of inflation targeting. In the second half of 1995, while base money targeting continued, monetary policy formulation included the assessment of the impact of capital inflows on prices by monitoring actual inflation outturns relative to programmed levels. Exceeding monetary target was tolerated as long as actual inflation was within the projected monthly path. This was implemented by shifting the operating target to net domestic asset and allowing the base money target to increase for any excess of foreign reserves. When inflation exceeded the projected monthly path, the operating target reverted to base money and the exchange rate was allowed to appreciate or the BSP implemented sterilization.

While the MT framework of the BSP served its purpose well and remained useful since its adoption in the mid-1980s, the BSP found it necessary to modify the manner in which it conducts policy primarily due to marginal improvement in inflation during the pre-modified MT period (i.e., both inflation average and volatility remained double-digit in Table 1). This is partly attributed to the weakening of the monetary policy framework resulting from major structural shifts toward greater liberalization of the financial system in the 1990s. At the core of the monetary targeting modification was the greater emphasis on price stability and less on the intermediate target, M3. The information set used in the conduct of monetary policy was broadened. The framework, therefore, began to assume a semblance of inflation targeting.

The modified MT had established price stability as the clear objective of monetary policy, with less emphasis on monetary targets. Table 1 shows the decline in inflation rate to a single digit and the reduction in inflation volatility under this framework. Notwithstanding the improvement in inflation, price stability was not sustained under the modified framework as other objectives were still considered in monetary policy. For instance, during the Asian Financial Crisis (AFC), the focus of monetary policy was on restoring confidence on the Philippine peso⁶ and containing inflation. When these were achieved, monetary policy priority shifted to the provision of support to economic recovery.

⁵ Guinigundo [2017] pointed out, however, that the occasional intervention of the BSP in the foreign exchange market was always in consideration of the price stability objective. Due to the significant role of the Philippine peso in predicting inflation, the BSP was participating in the market to ensure the orderly determination of the exchange rate and to minimize the pass-through effects on prices.

Moreover, increased difficulty in predicting short-run monetary developments had complicated the implementation of monetary targeting [Arora 2000]. This can be observed using the money demand equation of Arora [2000] in Table 2. It shows that while cointegration tests indicate the presence of a long-run equilibrium relationship among real money balances, real income and inflation expectations,⁷ the short-run error correction model has a small value for error correction parameter. This parameter represents the speed of adjustment towards long-run equilibrium. Multiple breakpoint test on the money demand equation also showed structural breaks in years of financial reforms, economic and financial crises, and surge in capital inflows.

TABLE 2. Money demand estimate, 1981 to 2001

Money Demand Equation: $\frac{M}{P} = a_0 + a_1 \frac{Y}{P} + a_2 \pi^e + \epsilon$	
where: $\frac{M}{P}$ is log (real M3); $\frac{Y}{P}$ is log(real GNI); and π^e is expected inflation or dlog (CPI)	
Johansen Cointegration test of real M3, real GNI, and expected inflation	Trace and Max-eigenvalue tests indicate 2 cointegrating equations**
Cointegration test on Residuals	ADF test statistic: -2.4***
Multiple breakpoint tests	Break dates**: 1986, 1991, 1994, 1997
Long-run coefficients:	
Real GNI	1.50 (68.0)***
Expected inflation	-0.34 (-5.7)***
Error-correction estimates	
Lagged real M3 (first difference)	-0.07 (-1.1)
Real GNI (first difference)	1.04 (5.2)***
Expected inflation (first difference)	-0.50 (-4.1)***
Error-correction term	-0.08 (-3.0)***

Statistically significant at *10 percent, **5 percent and ***1 percent levels

Unit root tests indicate variables were integrated of order 1.

Source: Arora [2000], authors' estimate using basic data from Philippine Statistics Authority and Bangko Sentral ng Pilipinas

3. The road to inflation targeting

Inflation targeting (IT) was seen as a promising approach to sustaining price stability over the medium term. Houben [1997] proposed that in the face of large monetary and real shocks, a policy that directly targets inflation in a transparent and consistent framework while giving enough room for maneuver to deal with unforeseen developments is ideal. Debelle and Lim [1998] also recommended the same to establish central bank credibility, since commitment to price stability would demand monetary policy discipline, transparency, and accountability.

⁷ Cointegration tests were conducted on the variables and the residuals of the money demand equation.

On January 24, 2000, the Monetary Board approved the shift of the country's monetary policy framework to inflation targeting. Just like any reform, the adoption of inflation targeting had its fair share of naysayers, the usual refrain was "if it ain't broke, why fix it". The BSP recognized that the undercurrents of trade deregulation and financial liberalization required a stronger policy anchor for the central bank to maintain monetary stability. Since monetary stability presupposes price stability, controlling inflation is the most sensible proximate policy goal to pursue.

Promoting price stability confers a distinct advantage in terms of more well-defined focus of monetary policy and the exercise of instrument independence. However, the BSP does not pursue price stability independent of other objectives. It recognizes that price stability is intrinsically linked to other objectives of financial stability and facilitating efficient payments and settlements system, all in support of more inclusive economic development. As Sheng [2013] puts it, whereas price stability safeguards monetary stability, financial stability ensures that the value of money is not eroded through credit, operational, or other risks.

Guinigundo [2005] provided an exhaustive discourse on the contexts that led to policy shift to IT, as encapsulated in this section. Unlike monetary targeting that reacts mainly to current inflation, IT has the forward-looking feature since monetary policy operates with long and variable lags. The BSP was already announcing annual inflation targets even under the modified monetary targeting framework. The shift was considered opportune as the preconditions like central bank independence and the primordial role of price stability were already existing. Moreover, the information-intensive nature of IT was seen to sharpen the economic surveillance capacity of the BSP.

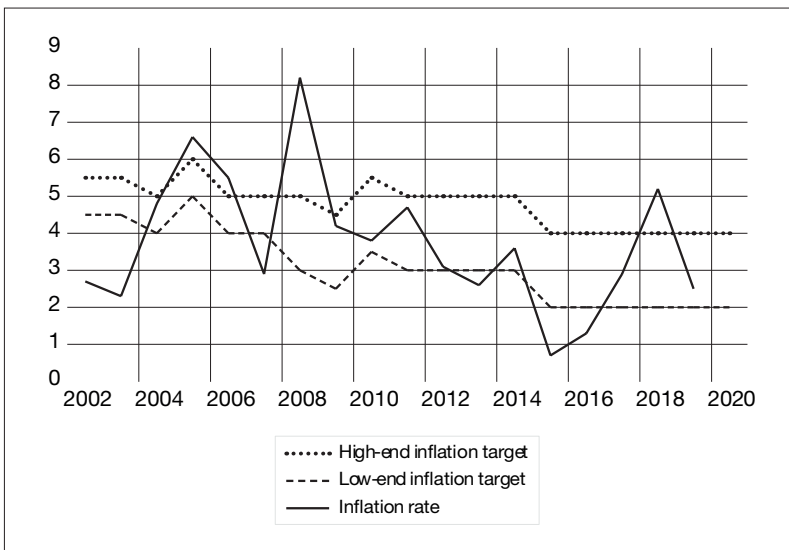
The change in monetary policy framework necessitated systems and process enhancements. The success of inflation targeting hinged on an effective communication strategy. Public information campaigns were held to raise awareness and to consult various sectors of the society in designing specific elements of the new framework. Some of the envisioned modalities that were discussed included the use of headline consumer price index (CPI) inflation as the official target; the adoption of a core inflation measure as an input to monetary policy setting; and the announcement of the government's annual inflation target, with one-percentage point band over a two-year policy horizon.

To support analytical rigor in decision-making, the Advisory Committee (AC) was created. The AC was tasked to provide the Monetary Board with insightful and well-considered analyses and recommendation on monetary policy stance. This required significant investment in sharpening analytical capacity in the development of quantitative models for inflation forecasting since these are crucial for a forward-looking monetary policy framework [Guinigundo 2005]. The Monetary Board also started considering a much broader set of information in discussing the monetary stance during periodic meetings. The BSP concomitantly pursued the liberalization of the BSP rediscount window, refocusing the use

of rediscounting facility to support the price stability mandate instead of development financing, as well as the gradual reduction and uniform application of reserve requirements.

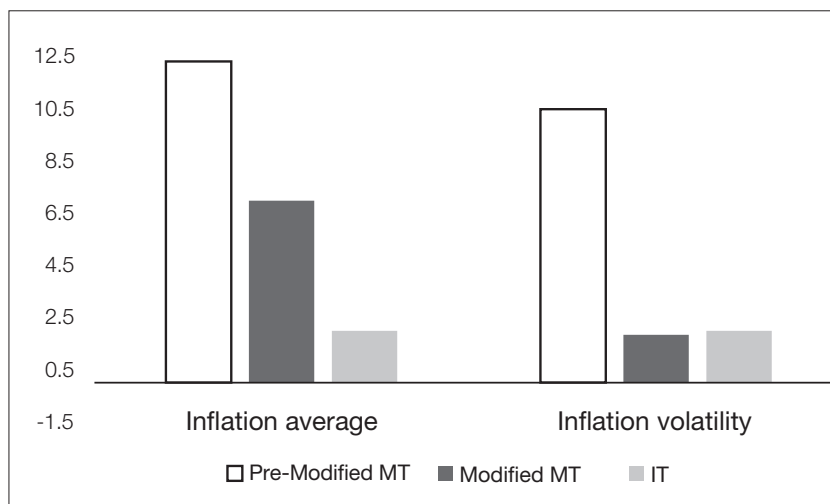
Recognizably, steering inflation towards the target was not an easy feat even when the transition period happened earlier during the modified MT regime. The initial years of implementation of inflation targeting were characterized by frequent breaches around the narrow target band (Figure 3). Nonetheless, inflation stabilization has been observed since the BSP adopted inflation targeting as the framework of monetary policy. Average inflation and inflation volatility have declined even with disruption caused by the global commodity price shock in 2008-2009.

FIGURE 3. Inflation performance during the IT period



Source of basic data: Bangko Sentral ng Pilipinas

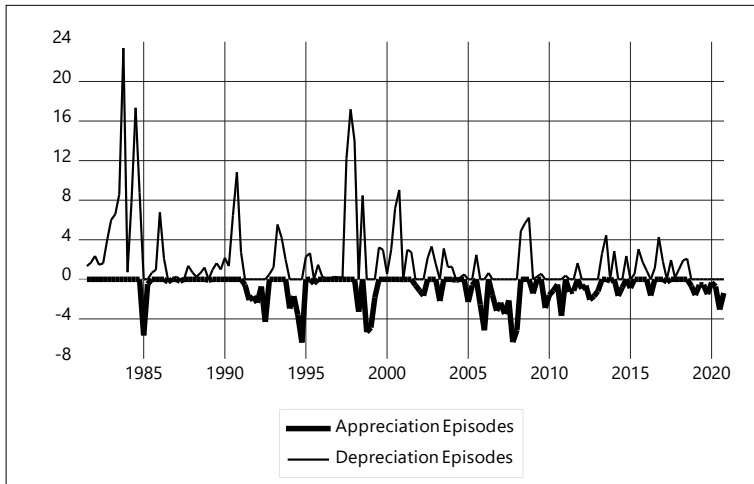
Figure 4 shows that among the three monetary policy frameworks adopted by the country, the shift to IT framework has been the most effective in promoting price stability. This is supported by a number of studies that discussed and empirically assessed the effectiveness of IT in allowing the country to achieve a lower average inflation and reduced inflation volatility (Guinigundo and Cacnio [2019]; Guinigundo [2017]; Glindro, et al. [2016]).

FIGURE 4. Inflation average and volatility in three monetary policy regimes

Source of basic data: Philippine Statistics Authority

Early in the IT implementation, the BSP initiated the engagement of international external experts in 2005 – 2006 to conduct a comprehensive review of the operational arrangements for inflation targeting and of the inflation forecasting models. The panel of experts consisted of Professor Kenneth F. Wallis of the University of Warwick, Prof. Bennett T. McCallum of Carnegie Mellon University, and the late Peter J. N. Sinclair of the University of Birmingham. The salient recommendations put forward by the experts centered on three principles: acceptability, achievability, and reform-orientation. Specifically, the proposals included widening of the forecast band, development of forward-looking forecasting models, generation of measures of inflation expectations from surveys and experts' forecasts, reporting of risks and reduction of frequency of policy meetings to better assess the evolution of key economic developments [BSP 2020a].

Greater exchange rate flexibility accompanied the disinflation process. This was evident after the 1997 Asian financial crisis and the subsequent implementation of financial sector reforms. Figure 5 shows that depreciation pressures which were stronger in the pre-IT period, have significantly ebbed and appeared more in balance with appreciation episodes during the IT period. Over time, the policy weight of exchange rate developments was largely on account of its impact on inflation and inflation expectations. BSP occasionally engaged in foreign exchange market intervention to stem excessive exchange rate volatility arising from speculative or “hot money” flows rather than structural flows such as remittances, exports, and foreign direct investment [Amador et al. 2009].

FIGURE 5. Exchange rate depreciation/appreciation episodes

Authors' estimates. Depreciation and appreciation episodes were estimated on a quarter-on-quarter basis.

Source of basic data: Bangko Sentral ng Pilipinas.

3.1. Communication as complementary policy instrument

Since its official implementation in January 2002, the BSP began publishing the Quarterly Inflation Report and minutes of Monetary Board meetings to increase transparency and accountability. In the event of breach of annual inflation target, open letters to the President explained the circumstances that led to the breach and the action plan to bring it back to target path was issued. The BSP increasingly held press conferences and issued press releases on its monetary policy stance, which provides the public with the BSP's views on evolving economic developments that underpin its policy decision. These, together with use of social media, are now staples of the BSP's communication system.

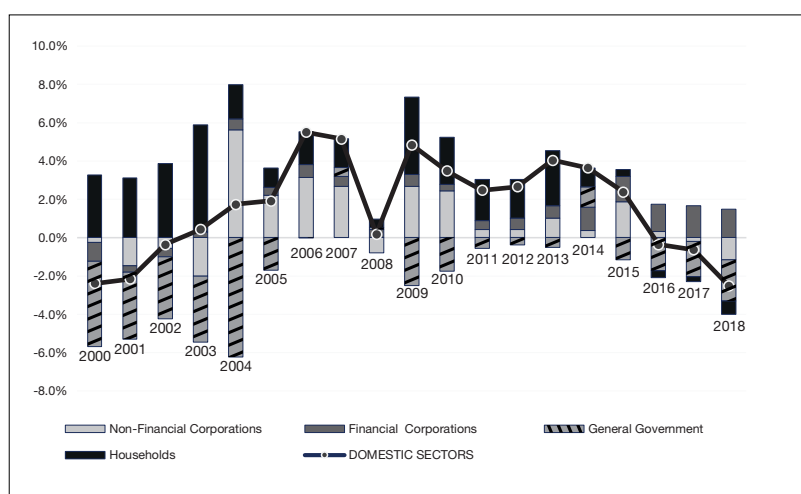
The forward-looking nature of IT has put greater importance on the expectations channel of monetary policy. Since the efficacy of monetary policy under the IT framework hinges mainly on the anchoring of inflation expectations, the BSP has considered communication with the public as an important and powerful part of its policy toolkit. Hence, aside from open market operations and other instruments, the BSP has acquired the flexibility to undertake "open mouth operations" as an important policy instrument. These operations refer to monetary policy communication and accompanying signaling that may move the markets at the same or even greater magnitude than the actual rate adjustments [Amador 2019]. The BSP has become more strategic in its communication to stabilize expectations and hence, further enhance the effectiveness of monetary policy. It is continually improving the way it communicates, particularly when introducing new policies and/or during times of heightened volatility and uncertainty.

3.2. Policy instrument constraint

The unique power of central banks to issue its own securities for regular liquidity management was clipped with the passage of RA 7653 that created the independent BSP.⁸ This power has been restored only in 2019, following the passage of amendments to the BSP charter under RA 11211. Thus, for the period 1993 – 2019, the BSP had to think of innovative modalities to improve its liquidity management operations that support inflation targeting.

Since 1993, the BSP had to rely on available government securities in the secondary market for its open market operations. The expansion in savings amid limited absorptive capacity of the economy, as reflected in the flow of funds data (Figure 6), resulted in substantial excess liquidity in the system that needed to be absorbed. As government securities available in the secondary market dwindled following fiscal consolidation, the BSP had to look for alternative mechanism to siphon off excess structural liquidity.

FIGURE 6. Net lending (+)/net borrowing (-) (as percent of GDP)



Source of basic data: Bangko Sentral ng Pilipinas

Expansion of SDA access. With capital inflows in excess of the absorptive capacity of the economy, the BSP expanded access to its the Special Deposit Account (SDA)⁹ facility in April 2007 to include trust entities of banks and non-bank financial institutions. Over time, banks, largely through their trust entities, placed sizeable portion of their funds with the BSP even as loan growth continued

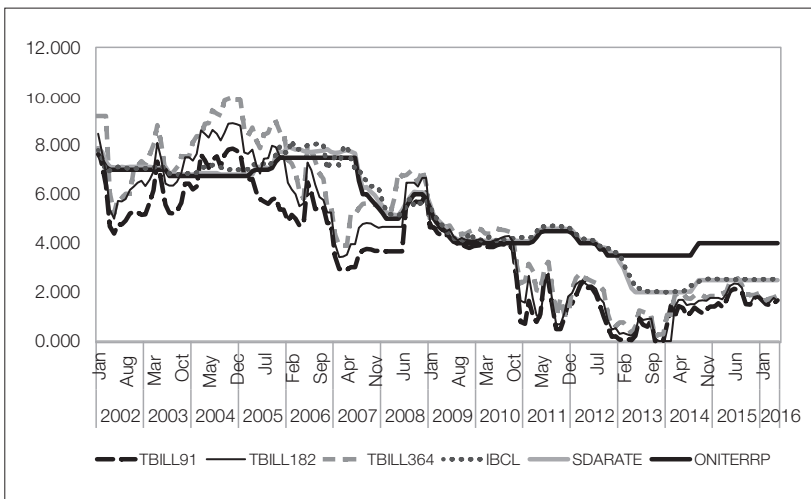
⁸ RA 7653 allowed for issuance of BSP securities only in cases of extraordinary movements in price levels.

⁹ First offered in November 1998.

to increase. This behavior can be traced to the general macroeconomic condition of inadequate investment opportunities vis-à-vis increasing savings. As such, deposit placements at the BSP provided alternative lucrative investment outlets [Amador et al. 2009].

Since SDA was a passive instrument, the BSP had little control over the volume of placements made by eligible counterparties. Not only did it impinge on BSP's balance sheet, it also inadvertently competed with private funds because it was seen as an alternative investment. The tenability of a passive SDA stood precariously against huge capital inflows. As can be gleaned from Figure 7, there was an apparent delinking of the key policy rate, that is, the RRP, from market and retail interest rates, which tracked the SDA from 2013 to 2016. It was eventually decommissioned and absorbed into the more market-based auction facility in 2016 when the BSP shifted to the interest rate corridor (IRC) system.

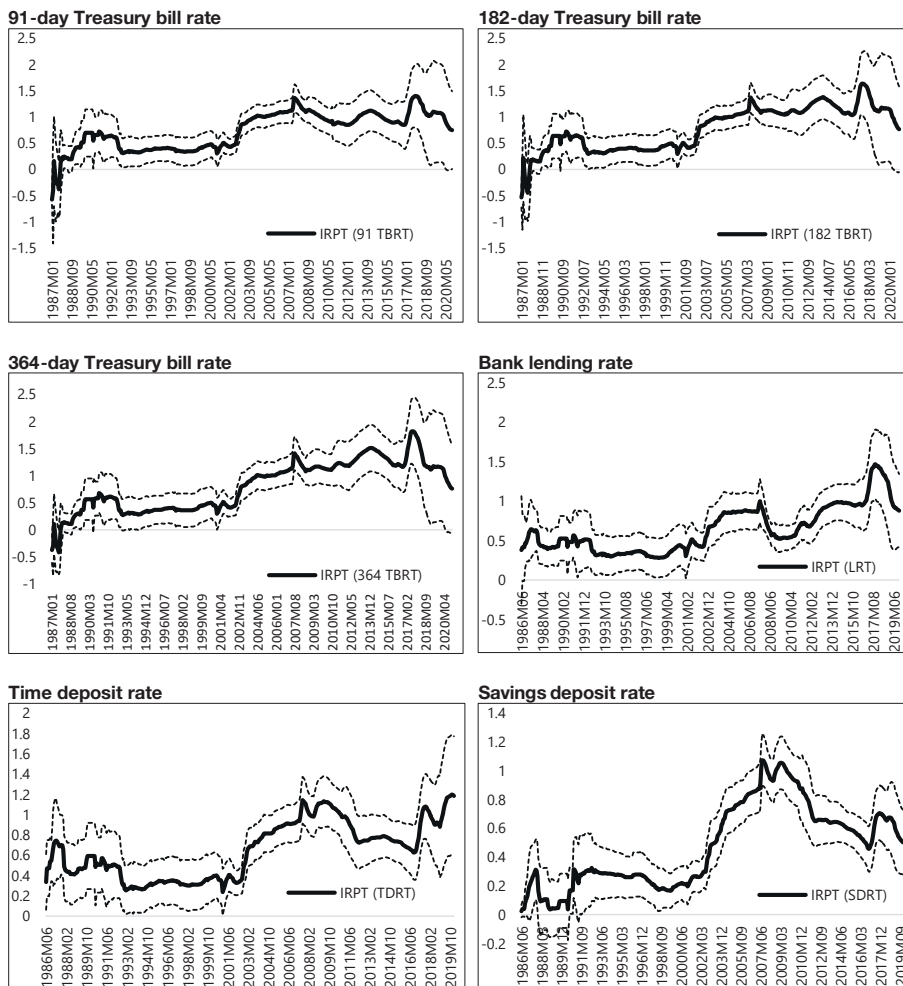
FIGURE 7. Pre-IRC market rates behavior



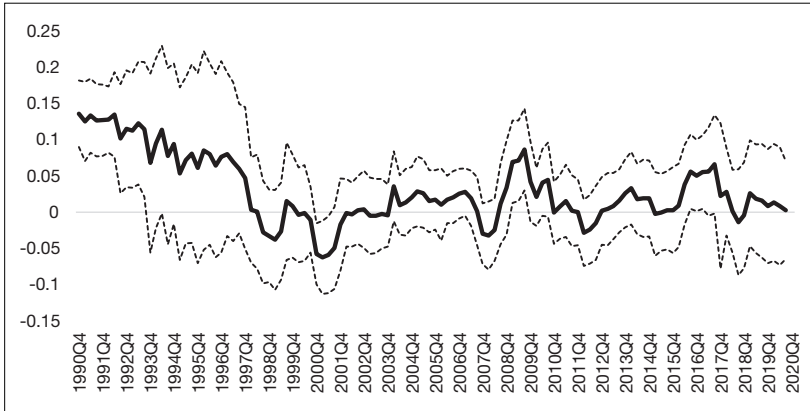
Source of basic data: Bangko Sentral ng Pilipinas

The progressive enhancements in the monetary policy framework were reflected in the strengthening of the pass-through of policy rate to market and retail rates and weakening of exchange rate pass-through to inflation (Guinigundo and Cacio [2019]; Guinigundo [2017]; Delloro et al. [2017]; Glindro et al. [2016]). The same findings are shown in simple rolling regression estimates with fixed length window of ten years.

FIGURE 8. Long-run pass-through of BSP policy rate to market and retail interest rates



Source of basic data: Bangko Sentral ng Pilipinas
 Authors used rolling regression with a fixed length window of 10 years.

FIGURE 9. Estimated long-run pass-through of exchange rate to inflation

Source of basic data: Bangko Sentral ng Pilipinas, International Monetary Fund, Philippine Statistics Authority

Authors' estimates based on rolling regression with 10-year fixed window and is applied on ARDL model with inflation expressed as a function of international oil price and rice price, output gap, and end-of-period nominal exchange rate.

3.3. Towards more market-based monetary policy operations

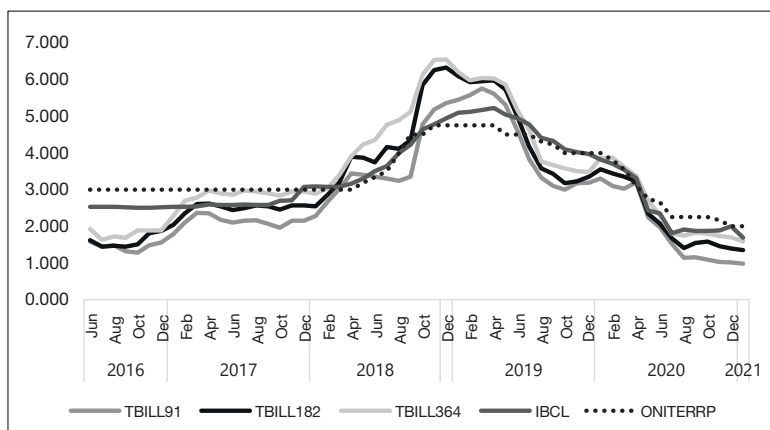
Monetary operations in support of inflation targeting have continually advanced. The various policy considerations and trade-offs imply that the textbook version of the inflation targeting framework, which prescribes pursuing inflation stability with floating exchange rates through adjustments of a short-term interest rate, may be too narrow for EME central banks [Carstens 2019]. This has pushed EME central banks to use additional policy instruments. Foreign exchange intervention has been used to deal directly with the financial channel or guard against volatile exchange rate movements while macroprudential tools have been deployed to deal with specific imbalances or vulnerabilities in a targeted way.

3.3.1. Introduction of the Interest Rate Corridor (IRC) system

In order to guide the short-term market interest rates towards a target policy rate, the Interest Rate Corridor (IRC) system was introduced. Under the new scheme, the reverse repurchase (RRP) was converted into an overnight RRP with fixed rate equivalent to the policy rate. Other fundamental changes included replacement of the Repurchase (RP) facility by a standing overnight lending facility (OLF) and replacement of the SDA term facility by a standing overnight deposit facility (ODF) and an auction-based term deposit facility (TDF). The OLF rate and ODF rates serve as the upper bound and lower bound of the corridor, respectively. Under the new system, the determination of the volume offer is based on BSP's appraisal of the appropriate amount of liquidity that needs to be infused or drawn off the system to ensure alignment of market rates with the policy rate.

As shown in Figure 10, market rates hewed more closely to the policy target rate since the implementation of IRC in 2016, signifying a more effective policy signal [BSP 2016].

FIGURE 10. Market rates behavior during the IRC period



Source of basic data: Bangko Sentral ng Pilipinas

With the adoption of the IRC system in 2016, an auction-based TDF was introduced to implement the policy on liquidity management. The counterparties—universal and commercial banks, thrift banks, and supervised non-bank and quasi-bank institutions—were required to submit their bids (volume and rate) for term placements with the BSP. The term deposit auction currently offers three tenors—seven-day, 14-day, and 28-day.¹⁰ The TDF facility has been oversubscribed most of the time, indicative of surplus liquidity condition (Table 2).

TABLE 2. Incidence of oversubscription in the TDF

	Number of auction days	No auction (holidays)	Incidence of oversubscription	
7-day	239	-	193	81%
14-day	151	9	112	79%
28-day	235	39	124	63%

Authors' computation

Incidence of oversubscription refers to bid-coverage ratio that exceeds 1.0 during auction days.

Source of basic data: Bangko Sentral ng Pilipinas (<https://www.bsp.gov.ph/Pages/PriceStability/TermDepositFacilityTDF.aspx>)

¹⁰ The BSP initially offered two tenors—seven days and 28 days.

3.3.2. Issuance of debt securities

The recently enacted RA No. 11211, or the amended BSP Charter restored the BSP's ability to issue debt securities to support liquidity management even during normal times. The reinstatement of this ability for the BSP is critical. The prolonged period of low global interest rates could induce substantial capital inflows, which, in the past, have led to the significant build-up of international reserves and excess liquidity. BSP securities provide greater flexibility to absorb excess liquidity.

As was done in past monetary policy reforms such as the shift to IT and adoption of the IRC, BSP's issuance of its own debt instrument was planned to be undertaken at a measured pace to avert disruptive market volatility. It was executed with an initial offering for 28-day tenor amounting to a small ₱20 billion. Such an approach was intended to facilitate market learning and avoid competition with the National Government (NG) in the primary government securities (GS) market. Ever prudent in its approach, the slow and steady approach becomes all the more critical as the country was still reeling from the effects of the pandemic when the maiden issuance of BSP securities was made on September 18, 2020.

Normally, central bank securities cover the shorter segment of the yield curve, and the offered tenors for BSP securities shall be conditional on market preferences and liquidity conditions. The offer size for the auction of BSP securities is based on the BSP's forecasts of the total amount of system liquidity to be absorbed. If there is persistent structural excess liquidity, longer-tenor CB bonds can also be issued [BSP 2020a].

Modalities for BSP issuances. Quarterly auction schedule for the issuance of BSP securities is posted on the BSP website in advance of actual auction dates. To ensure that NG borrowing requirements and latest market and liquidity settings are sufficiently considered, the offer volumes and maturities will be made available with two-day lead time.

Multiple-price auction (English) is applied to BSP securities whereas uniform price (Dutch) is adopted for original issuance of BSP bonds. The BSP's Monetary Operations System (MOS) is the platform for the submission of bids and allocation.¹¹ The secondary market trading of BSP securities is carried out through the designated trading platform of the Philippine Dealing and Exchange Corp (PDEX). Registration of awarded securities, both in the primary and secondary markets, is carried out in the National Registry of Scripless Securities (NROSS) of the Bureau of the Treasury (BTr). After receipt of instruction to deliver the BSP securities to banks' NROSS accounts, the NROSS activates the settlement of the peso leg on the PhilPaSS, thereby ensuring delivery-versus-payment [BSP 2020b].

¹¹ By the BSP's OMO Auction Sub-Committee (ASC)

3.4. Extraordinary monetary policy measures during the pandemic

Central banks around the world expanded its role in macroeconomic stabilization following the massive economic and financial disruptions of COVID-19 pandemic. The abrupt and massive disruption of economic activities following containment measures frazzled market participants. Financial markets were pummeled and animal spirit dampened. Even central banks from emerging market economies resorted to unconventional monetary policy (UMPs), which refer to unorthodox tools deployed by central banks when conventional monetary policy tools cannot adequately deal with the challenges posed by a crisis. While many of the UMPs¹² are actually part of the central bank toolkit (as embodied in its lender of last resort function), it is when they function as the principal means for achieving the central banks' objectives that they become extraordinary (RBA [2020], as cited in Glindro et al. [2020b]).

In the Philippines, buying interest in the government debt market paper and participation in the national government's regular auctions weakened significantly in the early phase of the implementation of quarantine measures in March. The BSP suspended TDF auctions to ensure supply of peso liquidity in the financial system [Boelsch et al., as cited in Robleza et al. 2020].

The BSP also extended, for the first time since 1993, bridge financing to the NG. The first instance was the repurchase agreement worth ₱300 billion in March 2020 that was bought back by the NG in September 2020. The BSP's repo arrangement with the NG was a short-term relief measure intended primarily to provide NG with some fiscal flexibility to finance its programs to counter the impact of the COVID-19 pandemic. It was not aimed at bringing down market interest rates over the medium-term. Overall, the BSP's intervention measures were geared at preventing disruptive imbalances in the financial market by ensuring sufficient liquidity and preventing liquidity strains that could trigger bankruptcies, defaults and lay-offs. ([Robleza et al. [2020]; Capule et al. [2020]; Glindro, et al. [2020a]).

Another short-term provisional advance of ₱540 billion was extended to the NG in October, which was settled in December 2020. The latest borrowing was the ₱540 billion granted in January 2021 [Diokno 2021]. These provisional advances were in accordance with Section 89 of RA 7653 that was retained in the amended RA 11211.¹³ Bayanihan 2 (RA 11494), passed on September 11, 2020, authorized the BSP to provide *additional* provisional advances to NG but the amount shall not

¹² The three broad categories of UMP measures are liquidity easing, credit easing, and quantitative easing (see Glindro et al, [2020b] for the summary of Smaghi [2009] and Ishi et al. [2009].

¹³ Sec 89. Provisional Advances to the National Government. The National Government may make provisional advances with or without interest to the National Government to finance expenditures authorized in its annual appropriations. Provided that such advances shall be repaid before the end of three months as the Monetary Board may allow following the date the National Government received such provisional advances, and shall not exceed 20 percent of the average annual income of the borrower for the last three preceding fiscal years.

exceed ten percent of the average income of NG for the last three years and would need to explicitly earmarked for the government's COVID-19 response programs. The NG can avail itself of the additional provisional lending until 2022, and must be repaid within one year upon availment.

The legal and binding limits to the direct monetary support that the BSP can extend to the NG have been put in place in the BSP Charter precisely to instill discipline and prudence, thereby mitigate the risk of excessive monetary financing and fiscal dominance. The BSP extraordinary support is a crisis management tool and is not designed to be a permanent fixture of monetary policy during normal times. It cannot and must not substitute for the necessary post-pandemic fiscal adjustment (Robleza, et al. [2020]; Glindro et al [2020a]; Smaghi [2009]).

4. The future of monetary policy

Monetary policy would need to prepare for a world of larger shocks, where sustained lower global equilibrium interest rates has become the norm. As Andrew Bailey [2021] pointed out, the task of monetary policy developed from being a "choice on a single dimension (the official interest rate) to a more multi-dimensional choice". Central banks must always endeavor to make the policy signals from each policy tool coherently distinct. This has become all the more pressing in periods when there are no evident inflationary pressures such that monetary policy may be hard put to take a long-term view.

While easy financing conditions may boost economic activity in the near term, it can potentially impair long-term economic prospects through debt accumulation and its associated financial and macroeconomic consequences. Since financial stability risks also imply risks to longer-run price stability, intertemporal policy trade-offs bring to the fore the issue as to when central banks should act preemptively. This has compelled EME central banks to use macroprudential tools in addressing specific imbalances.

As emphasized by Claessens and Valencia [2013], the spillovers, complementarities and potential conflict of policy measures are compelling reasons for promoting better coordination and employing robust data-driven economic surveillance mechanisms. Monetary policy must be able to sort through various sources of volatilities, safeguard central bank's operational independence. Clarity strengthens the effectiveness of the monetary transmission mechanism by enhancing the public's understanding of how the policy stance is likely to evolve in response to economic conditions. It reduces uncertainty and facilitates better-informed decision making by economic agents.

Taking stock of the policy trade-offs and complementarities, central banking in the Philippines has indeed gone a long way. Guided by foresight, commitment to action, strategic communication, and helpful lessons from the past, the BSP's monetary policy framework and operations will likely to continue to evolving and serving as steady anchors in macroeconomic stabilization in the context of increased uncertainty.

Acknowledgements: We are grateful to Dr. Laura L. Ignacio, for her insightful comments and to Ms. Genna Paola Centeno for excellent research assistance. We would also like to acknowledge our referees and the editor of the PRE for their valuable comments. The authors are officers of the Department of Economic Research -- Monetary Policy Sub-Sector of the Bangko Sentral ng Pilipinas (BSP). The views expressed in this paper are those of the authors and do not necessarily represent those of the BSP. Likewise, all errors and omissions are of the authors.

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