

Adopting Inflation Targeting for Monetary Policy: Practical Issues for Nigeria

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Abstract: *Monetary policy has been under public scrutiny and has resulted to changes in its conduct and design in the past few decades. Nigeria has adopted different monetary policy regimes ranging from exchange rate targeting, direct monetary controls to monetary targeting. The overall objectives of monetary policy have been the maintenance of macroeconomic stability and non-inflationary growth. Inflation targeting (IT) has recently become the dominant monetary policy prescription for both the developing and the industrialized countries alike. Emerging market governments, in particular, are increasingly pressured to follow IT as part of their IMF-led stabilization packages and the routine rating procedures of the international finance institutions. Thus Nigeria navigated towards adoption of IT monetary policy framework. But recent policy indication shows that the Central Bank of Nigeria (CBN) may have soft-pedaled in the pursuit of full-fledged IT for the country. This paper attempted to examine the basic issues, problems and prospects for the adoption of IT as monetary policy framework for Nigeria. To do this, the paper examined the historical background and country experiences of countries that have already adopted IT, the preconditions before the adoption of IT and the readiness of the Central Bank of Nigeria towards adopting IT and concludes that policy advice to Nigeria that is interested in adopting IT could usefully focus on the institutional and technical goals central banks should strive for during and after adopting targeting in order to maximize its potential benefits.*

Key words: *Inflation, Monetary policy, Exchange Rates*

I. Introduction

Monetary policy has been under public scrutiny and has resulted to changes in its conduct and design in the past few decades. Due to countries' trade and integration, monetary policy has been focused to the main motive of low inflation and price stability. As a result of this, a number of developing countries have adopted different monetary policy actions through the use of prices of gold, interest rates, exchange rate pegging, monetary targeting, price level targeting, and price of oil and so on to hedge themselves from high price levels (Leward and Ncwadi, 2014).

Nigeria was said to have indicated her interest to adopt the Inflation targeting (IT) framework by the year 2007 (CBN, 2007). However, to date (2015) no such official declaration has been made public yet. Instead, indication is that the Central Bank of Nigeria (CBN) may have soft-pedaled in the pursuit of full-fledged IT for the country. The growing popularity of the IT framework stems from the realization that inflation constitutes a major obstacle to economic growth and efficient resource allocation in the economy. It is argued that inflation distorts prices, diverts capital to rentseeking activities, compounds social and political problems, frustrates economic planning, encourages capital flight, discourages savings, reduces investment, retards economic growth and development, serves as tax on the poor and ultimately, reduces the living conditions of the people (Debelle, 1999).

In order to avert these ills, monetary authorities all over the world have made conscious efforts to achieve low and stable inflation rates, using one form of monetary policy framework or the other. Among the various monetary policy frameworks so far in use include exchange rate targeting, interest rate targeting, monetary targeting and recently the inflation targeting. Under IT framework, price stability is explicitly stated as the overriding objective of monetary policy (Olekah, 2006). Nigeria at various times, adopted exchange rate targeting under the pegged exchange rate regime, interest rate targeting, and now monetary targeting framework with limited successes. According to Uchendu (2002), Nigeria's monetary policy objectives have evolved from the era of multiple objectives at inception to the current implicit focus on price stability (Godwin and Ettah, 2014).

The major objective of this paper is to examine the basic issues, problems and prospects for the adoption of IT as monetary policy framework for Nigeria. The rest of the paper is organized as follows; section 2, which follows the introduction, discusses the conceptual framework for IT. In section 3, the historical background and country experiences are reviewed. The preconditions before the adoption of IT are reviewed in

section 4. An attempt is made in section 5 to assess the readiness of CBN/Nigeria for IT framework in Nigeria while the last section concludes the paper.

II. Conceptual Framework

Meaning of Inflation Targeting

The IT framework for the conduct of monetary policy takes into consideration the fact that monetary policy takes time to have an impact on the economy (Ojo, 2013). Thus the central bank might base its policy changes on a forecast of inflation, and not the past rate. In practical terms, the central bank forecasts the future path of inflation, which is compared with a specified target. The difference between the forecast and the target inflation determines the required adjustment of the policy instruments. If inflation is expected to deviate from the target, this would signify the need for a change of policy – a tightening of policy if inflation is forecast above the target and relaxation of policy if inflation is expected to be below the target. In this framework, the forecast inflation rate acts as the nominal anchor, unlike in monetary targeting where the nominal anchor is a specific monetary aggregate. Specifically, the IT framework has the following essential elements (Masson, Savastano and Sharma (1997), Schaecter, Stone and Zelmer (2000), Roger and Stone (2005), and Freedman and Otker-Robe (2009).

- (a) A public announcement of an explicit quantitative target for the rate of inflation some periods ahead;
- (b) An institutional commitment to price stability as the primary long-run goal of monetary policy and commitment to attain the target;
- (c) A forward-looking operating procedure in which the policy instruments are adjusted on the basis of assessments of all relevant variables, including movements in monetary aggregates, to arrive at policy decisions;
- (d) Increased transparency of the monetary policy framework through enhanced communication with the public and financial markets regarding the plans and objectives of the monetary authorities; and
- (e) Increased accountability of the central bank in achieving the monetary policy goal.

Inflation targeting is either strict or flexible, depending on the specified loss function of the central bank. Under strict inflation targeting, the central bank is only concerned about keeping inflation close to an inflation target over the shorter horizon (Mthuli and Eliphaz 2011; Svensson 1997b). This requires very vigorous activist policies, which involve dramatic interest rate and exchange rate changes. This happens with considerable variability of exchange rates, interest rates, output, employment and domestic component of inflation. To some extent the activism probably stabilize inflation around the inflation target. Flexible inflation targeting occurs when the central bank gives some weight to the stability of interest rates, exchange rates, output and employment to bring inflation to the desired long run target over longer horizon. It requires less policy activism which gradually returns the inflation back to target over a longer horizon. Immediately after adopting inflation targeting approach, applying a stricter approach clearly demonstrates the commitment to the inflation target, builds credibility more quickly, and is more appropriate at the initial phase of disinflation. However Svensson (1997b) argues that, after the bank has demonstrated commitment and established credibility to a reasonable degree, there may be more scope for flexibility without endangering credibility.

2.1 Arguments for and against Inflation Targeting:

According to Wolassa 2015; Jahan (2012), a major advantage of inflation targeting is that it combines elements of both “rules” and “discretion” in monetary policy. According to them, this “constrained discretion” framework combines two distinct elements: a precise numerical target for inflation in the medium term and a response to economic shocks in the short term.

Inflation targeting has several advantages as a medium-term strategy for monetary policy (Mishkin 2001). In contrast to an exchange rate peg, inflation targeting enables monetary policy to focus on domestic considerations and to respond to shocks to the domestic economy. In contrast to monetary targeting, another possible monetary policy strategy, inflation targeting has the advantage that a stable relationship between money and inflation is not critical to its success: the strategy does not depend on such a relationship, but instead uses all available information to determine the best settings for the instruments of monetary policy.

Inflation targeting also has the key advantage that it is easily understood by the public and is thus highly transparent. Because an explicit numerical target for inflation increases the accountability of the central bank, inflation targeting has the potential to reduce the likelihood that the central bank will fall into the time-inconsistency trap. Moreover, since the source of time-inconsistency is often found in (covert or open) political pressures on the central bank to undertake overly expansionary monetary policy, inflation targeting has the advantage of focusing the political debate on what a central bank can do in the long-run -- i.e., control inflation -- rather than what it cannot do -- raise output growth, lower unemployment, increase external competitiveness-- through monetary policy.

For inflation targeting to deliver these outcomes, there must exist a strong institutional commitment to make price stability the primary goal of the central bank. Inflation-targeting regimes also put great stress on the need to make monetary policy transparent and to maintain regular channels of communication with the public; in fact, these features have been central to the strategy's success in industrialized countries. As illustrated in Mishkin and Posen (1997), and in Bernanke, et. al. (1999), inflation-targeting central banks have frequent communications with the government, and their officials take every opportunity to make public speeches on their monetary policy strategy. Inflation targeting central banks have taken public outreach a step further: they publish *Inflation Report*-type documents (originated by the Bank of England in February 1993) to clearly present their views about the past and *future* performance of inflation and monetary policy.

Another key feature of inflation-targeting regimes is that the transparency of policy associated with inflation targeting has tended to make the central bank highly accountable to the public. Sustained success in the conduct of monetary policy as measured against a pre-announced and well-defined inflation target can be instrumental in building public support for an independent central bank, even in the absence of a rigidly defined and legalistic standard of performance evaluation and punishment.

2.2 Arguments against:

Many studies of the impact of inflation on growth also do not adequately capture the costs of controlling inflation (James and Léonce, 2010). For example, many studies include fixed investment (or the capital stock) as one of the controls in the growth equation, along with inflation and other explanatory variables. The impact of inflation is estimated holding fixed investment constant. However, maintaining low rates of inflation often involves changes in other prices in the economy, e.g., higher real interest rates or an appreciating real exchange rate. These price changes directly impact investment decisions and, as a consequence, long-run growth. However, this effect will not be captured if investment is held constant. If these relationships are present, then the point at which inflation negatively impacts growth is likely to be underestimated.

This leads us to one of the principal critiques of inflation targeting: this approach to monetary policy presumes that maintaining low inflation (often very low rates of inflation) will necessarily contribute to faster growth and more rapid development. For this argument to be justified, we must be confident that all the economic costs of inflation targeting are adequately captured in the analysis. For example, in many developing countries and emerging markets, maintaining very low inflation rates requires significant increases in the real interest rate (e.g., Epstein, 2008). High real interest rates may have negative consequences for growth and development. Accurately measuring all these effects is not a simple task.

Another channel through which inflation targeting may negatively affect the trajectory of development is through the real exchange rate and financial volatility (Galindo and Ros, 2008; Barbosa-Filho, 2008; Cordero, 2008). In economies with relatively unrestricted capital mobility and reasonably developed capital markets, the high interest rates associated with inflation targeting often attract inflows of short-term portfolio investment.

Such capital flows can lead to an appreciation of the real exchange rate, hurting exports and facilitating import penetration. Tradable sectors will be adversely affected by such an appreciation, leading to a reallocation of resources to the non-tradable sector. If productivity levels, on average, are lower in the non-tradable sector, the outcome will be slower growth and delayed industrialization. In addition, the accumulation of stocks of short-term capital increases the risk of financial fragility. A rapid reversal of these flows can lead to a collapse of the currency and, in turn, a broader economic crisis.

Finally, inflation targeting must be flexible enough to respond differently, depending on the source of inflation. As noted above, supply-side shocks may simultaneously reduce growth and raise inflation. Tightening monetary policy in response to this kind of shock may make the situation worse (as has been noted by Friedman and Kuttner and Posen, (1999). Strict inflation targeting introduces a pro-cyclical bias into monetary policy for countries in which supply-side inflation is commonplace. The degree of this bias will depend on the relative importance of supply-side factors in determining inflation and the amount of discretion monetary authorities are allowed.

None of these critiques of inflation targeting imply that inflation does not matter. However, they do suggest that central banks should have multiple objectives and a variety of policy instruments at their disposal to meet those objectives.

III. Historical Background And Country Experiences

Central banks from advanced, emerging, and developing economies and from every continent have adopted inflation targeting (see table). Full-fledged inflation targeters are countries that make an explicit commitment to meet a specified inflation rate or range within a specified time frame, regularly announce their targets to the public, and have institutional arrangements to ensure that the central bank is accountable for meeting the target.

Table 1 below shows a list of inflation targeting countries. There are 28 countries that use inflation targeting, fixing the consumer price index as their monetary policy goal. Three other countries—Finland, the Slovak Republic, and Spain—adopted inflation targeting but abandoned it when they began to use the euro as their currency (Jahan, 2012; Hammond, 2011; Roger, 2010).

Country	Inflation targeting adoption date	Inflation rate at adoption (percent)	2010 end-of-year inflation rate (percent)	Target inflation rate (percent)
New Zealand	1990	3.30	4.03	1 - 3
Canada	1991	6.90	2.23	2 +/- 1
United Kingdom	1992	4.00	3.39	2
Australia	1993	2.00	2.65	2 - 3
Sweden	1993	1.80	2.10	2
Czech Republic	1997	6.80	2.00	3 +/- 1
Israel	1997	8.10	2.62	2 +/- 1
Poland	1998	10.60	3.10	2.5 +/- 1
Brazil	1999	3.30	5.91	4.5 +/- 1
Chile	1999	3.20	2.97	3 +/- 1
Colombia	1999	9.30	3.17	2 - 4
South Africa	2000	2.60	3.50	3 - 6
Thailand	2000	0.80	3.05	0.5 - 3
Hungary	2001	10.80	4.20	3 +/- 1
Mexico	2001	9.00	4.40	3 +/- 1
Iceland	2001	4.10	2.37	2.5 +/- 1.5
Korea, Republic of	2001	2.90	3.51	3 +/- 1
Norway	2001	3.60	2.76	2.5 +/- 1
Peru	2002	-0.10	2.08	2 +/- 1
Philippines	2002	4.50	3.00	4 +/- 1
Guatemala	2005	9.20	5.39	5 +/- 1
Indonesia	2005	7.40	6.96	5 +/- 1
Romania	2005	9.30	8.00	3 +/- 1
Serbia	2006	10.80	10.29	4 - 8
Turkey	2006	7.70	6.40	5.5 +/- 2
Armenia	2006	5.20	9.35	4.5 +/- 1.5
Ghana	2007	10.50	8.58	8.5 +/- 2
Albania	2009	3.70	3.40	3 +/- 1

The first country to adopt inflation targeting was New Zealand, in December 1989. The only central banks to have stopped inflation targeting once they started it are Finland, Spain, and the Slovak Republic in each case after they adopted the euro as their domestic currency. Armenia, the Czech Republic, Hungary, and Poland adopted inflation targeting while they were making the transition from centrally planned to market economies. Several emerging market economies adopted inflation targeting after the 1997 crisis, which forced a number of countries to abandon fixed exchange rate pegs.

Many economies use an inflation target to define their monetary policy framework but are unable to maintain the inflation target as the foremost policy objective. This monetary policy regime is often referred to as “inflation targeting light” (ITL). The ITL countries choose not to adopt a fixed exchange rate because it would leave them vulnerable to a speculative attack, but a monetary target is not practical due to the instability in money demand. Yet they do not become full-fledged inflation targeters because of constraints, such as the absence of a sufficiently strong fiscal position. Often, ITL is used as a transitional approach—aiming at maintaining monetary stability until the implementation of structural reforms in support of a single nominal anchor. Poland, for example, switched from monetary targeting to ITL before making the full transition to inflation targeting.

Within Africa, South Africa became the first country to join the league of IT countries in 2000. In West African sub-region, Ghana adopted implicit inflation targeting in 2002 and formerly joined the league of inflation targeters in 2007. On the whole, the rate at which both industrialized and non-industrialized countries embraced IT framework has been overwhelming. Epstein and Yeldan (2008) reported that of the 88 non-industrialized countries surveyed by IMF, more than half had expressed the desire to adopt explicit or implicit quantitative inflation targets. The full list of IT countries and other candidate countries is presented in the Table 1 above as captured in Epstein and Yeldan (2008) and modified in Jahan (2012).

3.1 Experiences of Developed Economies

Experiences from countries that have adopted IT especially the developed countries, showed that foundations for successful full-fledged inflation targeting are built on having a strong fiscal position and entrenched macroeconomic stability. Also, there must be a well-developed financial system with an independent central bank and a mandate to achieve price stability. There is also the need to reasonably understand the transmission mechanism between monetary policy actions and inflation; have in place a sound methodology for constructing inflation forecasts and transparency to build accountability and credibility.

These include the following:

- To adopt inflation targeting, there is need to have a good model for forecasting inflation over the medium term horizon of at least two to three years;
- This model should be operationalized and used to track the deviation of actual inflation from forecast for at least two years, and adjudged to be efficient before the bank adopts the inflation target;
- The Central bank would have to determine which inflation to adopt: Consumer price Index (CPI) or Retail Price Index (RPI);
- Ascertain the level of inflation expectation by the economic agents and the central bank legislation on adoption of the monetary policy framework
- Communication needs must be adequately identified and channels appropriately defined; also the level of inflation that is consistent with the desired level of economic activities in the economy should be ascertained.

3.2 Experiences of African Countries

Majority of the countries that have adopted IT are developed countries and some emerging market economies. In Africa, only South Africa and Ghana have embraced the framework. Several other African countries including Botswana, Mauritius, Uganda, Angola, Zambia, Kenya, Sudan and Tunisia are planning to introduce the framework in the medium-term (3-5 years). For these African countries and other developing countries, their experiences appear very stringent at initial stage but became interesting.

3.2.1 South Africa

Since the establishment of the South Africa Reserve Bank (SARB) over 90 years ago, it has experimented with different policies aimed at ensuring the achievement of its mandate. Inflation in the 1970s and 80s was in the double digits which prompted a shift to IT as a strategy to minimize the economic impacts of inflation. It was the SARB's belief that IT brought with it, clear and explicit objectives as well as transparency. Thus, under the Inflation targeting framework, the target is set by government between 3.0 - 6.0 per cent per annum. As an independent institution, SARB uses its instruments (primarily the repurchase rate) in such a way that the target is achieved. In South Africa, IT had been conducted with flexibility, with considerations for financial stability and broader economic performance. The Monetary Policy Committee (MPC) entertains diverse viewpoints before decisions are taken, but also ensures moderation of extremes. Since the commencement of IT in the country, inflation has dropped significantly and is currently below 5.0 per cent.

3.2.2 Ghana

The Bank of Ghana (BOG) Act 612 of 2002 set the tone for IT in the country. The law gave the BOG independence in the discharge of its monetary policy with the primary objective stated explicitly as price stability. The law had explicit provisions on government financing and it established a Monetary Policy Committee which had responsibility for the conduct of Monetary Policy. The MPC had since entrenched various institutional, operational, accountability and transparency arrangements to help in the effective discharge of its functions. The Monetary Policy Committee (MPC) meetings are held six-times in a year as stipulated by Law and the Committee critically examines data and technical reports covering developments in all the areas of the economy. In the assessment of growth potentials, especially, in the real sector, BOG uses the Composite Index of Economic Activity (CIEA) as a key indicator. Also, business and consumer confidence surveys are employed to gauge economic activity. A suite of models is employed in the assessment of current price conditions and inflation forecast. Since the commencement of IT in the country, inflation has dropped from double to single digit and the Bank is poised to reduce it below 5.0 per cent.

Some of the challenges in Ghana and South Africa included fiscal liquidity, the need for high frequency data for forecasting and the dynamic global environment that requires staff to constantly update their competencies on the emerging issues (CBN, 2011).

IV. Do Preconditions Need To Be Met Before Inflation Targeting Is Adopted?

A common objection to inflation targeting is that it is costly in terms of institutional and technical requirements, making the framework unsuitable for some emerging market economies. The most detailed exposition of this point was made by Eichengreen et. al (1999), who argue that technical capabilities and central bank autonomy were severely lacking in most emerging market economies (including several that subsequently adopted inflation targeting). Such countries, the argument goes, would be better off sticking with a conventional policy framework, such as an exchange rate peg or money growth targeting.

“Preconditions” fall into four broad categories:

- **Central Bank Independence**

Key institutional requirements include central bank independence, and a public and institutional political commitment to the inflation objective of the framework. The focus on central bank independence relates to instrument-independence. From a political economy perspective, it is desirable that the goal of monetary policy be set by democratically elected governments. But once set, the mandate should be given to central banks with independence to implement monetary policy in order to avoid the time-inconsistency problem or a political monetary policy cycle.

But independence is almost irrelevant if there is not a general commitment to the framework to give it legitimacy. (Kahn 2011; Mishkin 2004) argues that writing the mandate into law is not necessarily required, or indeed in some cases is not necessarily sufficient, as “laws may matter less than the general public and politicians’ commitment to support price stability. Here past history matters. Many emerging-market countries have had a history of poor support for the price stability goal and since laws are easily overturned in these countries, it is not clear that laws will be sufficient.”

This commitment to price stability is critical. If government changes the target each time the central bank has to implement unpopular measures, the underlying advantages of inflation targeting, of building credibility and predictability, and the anchoring of expectations will fall away. An institutional structure that lacks this commitment could, in effect, result in a transfer of monetary policy discretion to the government and a return of the time-inconsistency problem. For this reason, transparency and good communication skills are especially needed by central banks in ‘politically complicated’ environments. Yet even excellent communication may not be enough if the political environment is not conducive to supporting an independent central bank that focuses on inflation control (Mishkin, 2004).

However, an excessive focus on inflation without regard to real output variability could undermine independence as government may move to reduce the degree of independence (Mishkin, 2008). In South Africa instrument-independence is constitutionally guaranteed. The Bank does not have goal-independence, since the goal of monetary policy is set by government in the form of the target. While the institutional requirement is guaranteed, it is not necessarily the case that a high weight is placed on price stability by the public or some politicians.

- **A well-developed technical infrastructure.**

The central bank must have inflation forecasting and modeling capabilities and the data needed to implement them. Central bank survey responses indicate that the majority of industrial and emerging market targeters started with little or no forecasting capability and no forecasting model; when a small model was available, most central banks report that it was not suitable to make forecasts conditional on different assumptions for the monetary policy instrument. (Nicoletta and Douglas ,2006) In addition, although industrial country targeters often had some sort of systematic forecast process in place, most emerging market targeters did not. Key data to generate forecasts and analyze spending and price patterns were missing or of low quality at the time inflation targeting was adopted, with emerging market targeters at a disadvantage relative to industrial country targeters.

- **Economic Structure**

None of the targeters enjoyed ideal economic conditions at the time they adopted targeting. Countries were sensitive to changes in exchange rates and commodity prices when they adopted inflation targeting.

Dollarization was not a problem for industrial country targeters; the evidence on dollarization from the survey and from data collected by Ramon-Ballester and Wezel (2005) indicate different degrees of dollarization across emerging market targeters, with Peruth the most dollarized targeter. Last but not least, the survey indicates that the consumer price index in a number of targeting countries included at the time of adoption (and in most case still includes) a significant share of administered prices.

- **Healthy Financial and Banking System**

At adoption most targeters scored poorly in terms of the risk weighted capital adequacy ratio; measures of financial market depth (ratios of stock market capitalization to GDP, private bond issuance to GDP, and stock market turnover or the maximum maturity of actively traded government or corporate nominal bonds); and the extent of banks' foreign currency open positions (Nicoletta and Douglas, 2006).

V. Is The CBN/Nigeria Ready To Adopt Inflation Targeting?

Nigeria has indicated intention to transit to IT as a framework for monetary policy. Apparently, preparations are being made for the transition when viewed from the following standpoints:

There are developments, since the beginning of the debate in January 2000, which has improved the regulatory and operating environment leading to the attainment of some of the critical success factors. Generally, there is a better understanding of the benefits of a stable macroeconomic environment as a pre-requisite for sustainable economic growth and poverty reduction in Nigerian.

The CBN has demonstrated its independence in the conduct of monetary policy in the last eleven years. The success of the Bank in the policy induced consolidation of banks through mergers and acquisition in 2005, liberalizing and sanitizing and prosecuting Chief executive Officers (CEOs) of some Deposit Money Banks in 2009, setting up of Assets Management Company (AMCON), improved operating environment that has improved financial institutions credibility, and the depth and health of the financial market, through which the transmission of monetary policy occurs and interventions in various sectors of the economy lends credence to the Bank's operational independence.

The publication of a summary of the Monetary Policy Committee (MPC) meeting decisions, and the holding of public discourse such as the Monetary Policy Forum and Conference, as well as speeches by top Management, have provided the Bank with the opportunity and mechanism for enhancing policy advocacy, transparency and accountability.

These indications suggest that there is an emerging commitment to satisfy the pre-conditions for a successful transition to an IT framework (CBN, 2011).

VI. Conclusions

Inflation targeting is a relatively new monetary policy framework for emerging market countries. While the short time period that has elapsed since the adoption of these frameworks means that any assessment must be preliminary, the evidence from the initial years of operation is encouraging, with targeting associated with lower inflation, lower inflation expectations, and lower inflation volatility. There have been no visible adverse effects of targeting on output, and performance along other dimensions—such as the volatility of interest rates, exchange rates, and international reserves—has been favorable. All this may explain the appeal of this strategy for emerging markets in which poor past inflation records have made it difficult to build credibility and minimizing the output costs of reducing inflation is imperative for social and political reasons. It also may explain why no country has yet abandoned inflation targeting.

Thus it does not appear to be necessary for emerging market countries to meet a stringent set of institutional, technical, and economic preconditions before successfully adopting inflation targeting. Instead, the feasibility and success of targeting appears to depend more on the authorities' commitment and ability to plan and drive institutional change after introducing IT. Consequently, policy advice to Nigeria that is interested in adopting IT could usefully focus on the institutional and technical goals central banks should strive for during and after adopting IT in order to maximize its potential benefits.

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