



Operational issues for the implementation of **Inflation Targeting Monetary Policy framework**

Special Report

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Executive Summary

The rapid penetration and subsequent adoption of FinTech or the “internet of things”, the accompanying preferences for electronic payments systems (digital wallet, micro-credit, mobile money and credit and saving services, and micro-insurance services using mobile phones) over cash coupled with structural shift in economic conditions of economies has revolutionized the financial ecosystem in developed and developing countries alike. In this rapidly transforming economic dynamics and the changing conditions in the financial markets space, and in an effort to reign on inflation in a credible manner, the quest by most central banks to transition to a forward-looking policy framework is real. In this article, we lean on the experiences of the inflation targeting (IT) practicing central banks to provide insights into the nitty gritty to the IT framework.

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Introduction

The conduct of monetary policy in Africa, as elsewhere, has evolved significantly over the past few decades. Prior to the 1990s, monetary policy around the continent was conducted in an environment of substantial fiscal dominance. Interest rates were largely administratively controlled while at the same time, central banks were required to abide by the doctrines of the fiscal authorities, which largely directed monetary policy to fill government financing gaps. Even more, parallel foreign exchange market was ubiquitous during this period, reflecting exchange rate controls in a context of monetary financing of large fiscal deficits. By the early 1990s, the evident failure of an (over) activist monetary policy encouraged moves to dismantle control regimes, liberalize foreign exchange markets and establish more robust fiscal regimes. To restore macroeconomic stability, there were two key developments. First was the move towards more flexible exchange rate regimes and second was that price stability became the *de jure* principal aim of monetary policy.

Monetary policy is a demand management tool, thus the objective of price stability. The focus of monetary policy in ensuring stable prices recognizes both its powers and limits regarding its influence over the rest of the economy. It cannot, for example, be used to mitigate the supply-side factors, which in effect require structural policies which are long-term in nature. Therefore, over long horizons, the size of the economy and its average rate of growth are driven by developments on the supply side. Moreover, the impact of monetary policy on the economy occurs with a lag. Given this limited scope for monetary policy, it is not feasible for a central bank to adopt other long-run targets, such as the growth rate of economic activity. Hence, it is the combination of a country's fiscal and monetary policies that direct a country's economic outcomes.

For most central banks, the primary objective of monetary policy is to achieve low and stable inflation—defined by a medium-term target of headline and/or core inflation with a band—essentially to allow for some flexibility to absorb shocks outside of the control of the central bank. Output stabilisation and/or financial sector stability, in most central bank jurisdictions, are subordinate objectives to the price stability objective. The focus on price stability is premised on its adverse implications for economic growth. It erodes the value of incomes and savings and leads to high nominal interest rates because it increases the uncertainty about future relative prices and about the price level, and so domestic and foreign financial markets require a higher risk premium as compensation for this increased uncertainty. When inflation is high in the long term, inflation and depreciation expectations generally become fixed in the decision-making of economic agents. Inflation causes several other economic distortions that reduce the long-term growth potential of the economy: it redistributes income from creditors to debtors, creates distortions in the tax system, and represents a hidden burden on savers, who are unable to safeguard the purchasing power of their incomes and savings.

In the rest of the article, we dive into developments behind the transition to the inflation targeting (IT) monetary policy framework; the fiscal-monetary institutional arrangement necessary for the IT framework; the formulation and implementation aspects of the framework; and the exchange rate management question under the framework. A strategy for communicating

the context and rationale of these policy choices to the broader public is also given attention as well as the experiences of the IT practicing central banks.

Changing conditions in the financial markets space, impotency of monetary quantity-based targeting and the transition to price-based Inflation Targeting monetary policy regime

In pursuing the inflation objective above, and in particular, prior to 2000, regional central banks have mostly conducted monetary policy under the monetary aggregate and/or exchange-rate targeting and in some cases for those with no explicit nominal anchor, it is the various indicators that are monitored. Of chief concern in this piece is the monetary aggregate targeting or reserve money targeting framework— a traditional framework which is still as popular in many regional central banks. The framework involves setting a target for a monetary aggregate, such as the reserve money or the growth rate of money supply (the nominal anchor or intermediate target of monetary policy) and the central bank using its tools to ensure that the monetary aggregate stays close to the target.

Under the reserve money targeting, monetary policy formulation in practice has two building blocks. The first is setting an intermediate target for broad money to provide a useful signal about current or prospective movements in inflation and output, and the second is relating the intermediate target to an operating target—reserve money—a variable under the effective control of the central bank. As noted by the central bank of Kenya (CBK) (2021), and Robert and Nicolini (2015), a path consistent with price stability is derived for the monetary aggregates. It is assumed, therefore, that if the money multiplier is stable, the central bank can control the overall monetary conditions in the economy by keeping reserve money at a level that is consistent with desired level of broad money growth (Dua, 2020; IMF, 2015; and Mishkin, 1998). The framework, overall, is anchored on a predictable and stable relationship between money supply and inflation. To this end, effectiveness of the framework, in terms of its ability to anchor inflation expectations, requires a stable money demand function, which itself is dependent upon a stable velocity of money and money multiplier—conditions necessary for a strong and stable relationship between monetary aggregates and the price stability objective of monetary policy.

Over the past two decades, however, monetary policy framework has evolved from a monetary aggregate targeting described above to a forward-looking policy framework. This has been occasioned by the rapidly transforming economic dynamics and the changing conditions in the financial markets space. The rapid penetration and subsequent adoption of FinTech or the “internet of things”, the accompanying increase in the use of or preference for electronic payments systems (digital wallet, micro-credit, mobile money and credit and saving services, and micro-insurance services using mobile phones) over cash coupled with structural shift in economic conditions of economies has revolutionized the financial ecosystem world over, sparing not developing countries.

Financial inclusion—the percentage of the population aged 15+ in Sub-Saharan Africa (SSA) with accounts in financial institutions and mobile accounts holdings has tremendously expanded to 42.6% and 20.9% in 2017 from 23.2% and 11.6% in 2011, respectively (World Bank Global Findex database (2017)). These benefits are even higher at country group level. In the East Africa (EA) region alone, for example, on account of enhanced penetration of mobile phones based financial services which by 2021 had increased by 77% (Communications Authority of Kenya (CAK), Uganda Communications Authority (UCC), Tanzania Communications Regulatory Authority (TCRA), 2022 statistics), financial inclusion edged to 68.9% in 2018 from 57.9% in 2013 (Finscope, 2018 and FinAccess, 2021). This notwithstanding, these developments have undermined the central bank's conduct of monetary policy under the monetary aggregate targeting framework. Country level evidences suggest that central banks have experienced numerous constraints in anchoring inflation expectations/maintaining price stability. The assumptions of a stable demand for money and money multiplier underlying the monetary targeting framework have generally become unstable with time, weakening the link between monetary aggregates and the price stability objective.

Hence, driven by the need to reign on inflation in a credible manner, many central banks across the globe, some on the African continent have since adopted Inflation Targeting (IT) monetary policy framework. Examples of these are bound, including the central banks of New Zealand and Brazil, the Riksbank, the Bank of Indonesia and the National Bank of Georgia, which officially adopted IT framework in 1990, 1999, 1993, 2005 and 2009, respectively. Other global IT central banks are the Bank of England and the central banks of Czech Republic, Australia, Canada and Israel. Africa is no exception. The South Africa Reserve Bank officially adopted the IT framework in February 2000, Bank of Ghana in 2002 while Bank of Mauritius and Bank of Uganda (both COMESA region member central banks) officially adopted IT-Lite in December 2006 and June 2011, respectively. The central bank of Kenya (CBK) began transitioning to the IT framework in 2012, but aborted the process in 2015 to concentrate on financial stability following the collapse of three commercial banks which had exacerbated market segmentation. Nonetheless, the transition to the IT framework at the CBK, just like many other COMESA jurisdictions, including, among others, the central banks of Rwanda, Malawi, Zambia, Egypt, Madagascar, Seychelles is fast getting traction. In **Table 1** is a snap shot into the IT central banks and reasons for the transition including the measure for inflation they target and the monetary policy signalling.

As with monetary aggregate targeting, the shift to a forward-looking monetary policy framework does not change the primary objective of price stability but entails changes in the operating and intermediate targets to price-based targets, i.e., the policy interest rate as the operating target—the rationale of which being that aggregate demand is inversely related—in the short term—to the real interest rate and a target for inflation over the medium-term as the primary target (Maehle, 2020). The basic idea is that given some degree of price stickiness, a rise (fall) in the policy interest rate induces (with a lag) a fall (rise) in private expenditures, which in turn affects real output and inflation. The IT framework entails two components: 1) a particular framework for making policy choices, and 2) a strategy for communicating the context and rationale of these policy choices to the broader public.

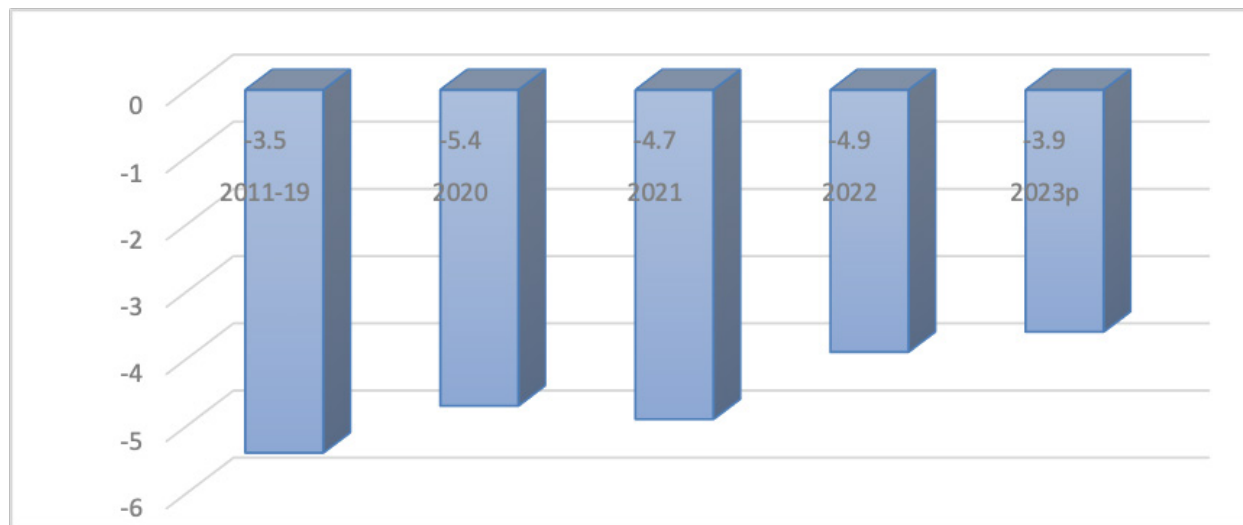
The Institutional arrangements of the Inflation Targeting monetary policy framework

Ötoker and Freedman (2010) opines three essential pre-conditions for the introduction of IT: i) the central bank must have inflation as its primary target; ii) there must be no fiscal dominance and; iii) the central bank must have instrument independence, i.e., it must be free to set the policy interest rate).

The first of these three conditions is not an issue, atleast in the COMESA member countries. Controlling inflation, with a publicly announced target for it, has been and remains the cardinal primary objective of monetary policy in all member country's central banks. A shift to IT monetary policy framework does not, therefore, necessitate any change in the policy objectives of any one central bank. The third condition is not problematic as well. In terms of deploying monetary policy instruments, the independence of our regional central banks has not been questioned, either *de jure* or *de facto*.

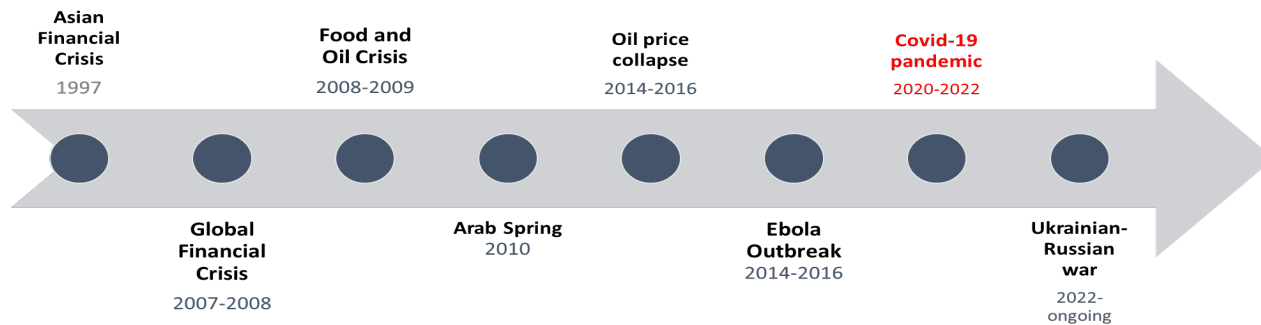
The issue of fiscal dominance remains by far complex, complicated by the country's ever rising fiscal deficits. Indeed, in **Fig. 1**, the average fiscal deficit including grants for the COMESA region remain heightened. As a consequence, levels of government's domestic financing requirements have been rising since the mid-2000s on account of complicated policy environment. Over the past two or so decades alone, the regional economies have suffered the wrath of the devastating effects of a series of cascading shocks, including the Asian Financial Crisis (1997–98), the Global Financial Crisis (2007–8), the Eurozone crisis (2009) and the current post-COVID multiple shocks and the 'big funding squeeze' (**Fig. 2**). In addition, regional economies have become increasingly vulnerable to costly effects of climate change (disruptions in agricultural production, food insecurity, and damages to infrastructure). This has had implications for the region economies expenditure and revenue mobilization, including reductions in the share of donor aid in the budget resource envelope for the majority of aid dependent countries, hence rising levels of fiscal deficits.

Figure 1: COMESA average Overall Fiscal Balance (incl. Grants, % of GDP)



Source: IMF REO Sub Saharan Africa April 2023

Figure 2: A 25-year timeline of external shocks on African economies



Source: Murinde & Petropoulou (2023)

Table 1: Summary of countries with IT

Country	Year of adoption	Reasons for transition	Inflation measure	A point target or range	Monetary policy signal
Mauritius	Introduced ITL in 2006	<i>To better anchor inflation expectations amidst developing domestic financial and offshore sectors</i>	Headline inflation	Point target of 8%	Repo rate
Georgia	IT introduced in 2009, after transitioning from monetary aggregate targeting	<i>Better anchor inflation expectation</i>	Headline inflation	Point target at 3%	One-week refinancing or monetary policy interest rate
Brazil	IT adopted in 1999	<i>To anchor inflation and contain large pass-through effects of exchange rate devaluation to inflation</i>	Headline inflation	A varying target range (band) ±1.5% to 2.5% of an announced target	MPC-Selic rate
Indonesia	IT officially adopted in 2005	<i>Better anchor inflation expectation, & need for adequate CB flexibility in response to more complex economic developments & a stronger financial sector influence on macroeconomic stability.</i>	Headline inflation	Initially set at 6±1% in 2005; at 3.5% & 3% for 2019, 2020, respectively; Now at 3% since 2021, within a ±1% corridor.	BI-7-day reverse repo rate
Sweden	IT adopted in January 1993 but started operation in 1995	<i>Establish credibility of monetary policy following financial crisis in 1992</i>	Headline inflation	Initially set at 2±1%; set at 2% in 2010; now at 2±1% since 2017	Repo rate
New Zealand	IT adopted in 1990	<i>To bring inflation down and establish credibility</i>	Headline inflation	1-3% with a focus on the 2% target mid-point & Employment (with no numeric value)	Official cash rate (OCR)
South Africa	Pre-adoption August 1999; official announcement February 2000.	<i>To better anchor inflation expectation, in light of increasing difficulties in relying on monetary aggregates to guide the stance of monetary policy</i>	Headline inflation	Target range of 3-6% to allow flexibility in absorbing shocks	SA O/N interbank rate
Ghana	Pre-adoption in 2002; Official adoption in May 2007	<i>To re-establish credibility and anchor inflation expectation</i>	Headline inflation	At start, 14±1% target range to allow flexibility in absorbing shocks Current target is 8±2% ±200 (lower limit) ±100 (upper limit) basis points interest rate corridor	CBR used to target inflation directly.
Uganda	Abandoned Monetary targeting in 2010; officially adopted ITL in July 2011	<i>Weakened relationship of inflation and monetary targets and instability of money multiplier with rapid growth in financial system, including increased integration to the global financial market</i>	Core inflation	5% target for core inflation over the medium term ±3% band	7-day interbank rate

Adopted from CBK, *Modernization of the Monetary policy framework and operations*, July 2021.

Fiscal and monetary policy are presumably intertwined under the monetary targeting framework—the government is subject to ceilings on its net domestic financing (majorly under the IMF supported programmes), but it does not explicitly issue securities to fund its domestic financing requirement nor aim to avoid any borrowing from the central bank. Instead, the central bank issues government securities, through primary auctions, to mop up the liquidity needed to meet its reserve money targets. Thus, the distribution of the government's domestic financing requirement between the central bank and market participants is determined passively as the outcome of the interaction of the needs of the reserve money programme and the magnitude of domestic financing, which makes it impossible to distinguish where fiscal policy, in terms of its financing needs ends and where monetary policy begins. In other words, both monetary and fiscal policy lack transparency which is not a satisfactory arrangement for the IT framework.

In the operational circumstances above, implementing the IT framework would need two key changes. First, the domestic financing of the budget would need to be separated from monetary policy. Secondly, government borrowing from the central bank, in as much as possible, would have to be avoided. Separating the domestic financing of the budget from monetary policy demands that the primary issues of government securities should only be used for mobilising finance for the budget. It means that the fiscal authority—upon determining the size of these issues based on the domestic financing requirements of the budget announces the annual amount of net issues of securities in the budget. On the contrary, the practice under the monetary targeting framework is that primary securities issues are used only for monetary policy and the central bank alone determines the amount issued. Under the IT framework, monetary policy is conducted on the secondary market, through issuing repurchase or reverse repurchase operations and, more occasionally, through secondary market sales of the central bank's own holdings of government securities (usually issued for recapitalization purposes) — a separation that makes it possible for the market to distinguish clearly between fiscal and monetary policy operations.

Avoiding government borrowing from the central bank is much more important under the IT framework than it is under the monetary targeting framework, for about three pertinent considerations. First, in meeting the economic challenges arising from recent cascading series of shocks, current tighter financing conditions and subdued growth, government budgets now require more domestic borrowing than was the case until a few years ago—hence how this borrowing requirement is met is a more pertinent issue than it used to be. Secondly, central banks can no longer simply mop up the liquidity created by their lending to the government's by issuing securities on the primary market (as these are used to finance the budget, not for monetary policy). Thirdly, it would eventually undermine the credibility of the central banks to reign on inflation.

While fiscal authorities under the medium-term expenditure framework do commit to avoid borrowing from the central banks, implementing this remains far problematic, perhaps partly due to a lack of consensus as to what actually constitutes government borrowing from the central bank. From the monetary authority's point of view, it constitutes the net change in the government position with the central bank (excluding some dedicated funds) as this translates into money creation and/or

loss of foreign exchange reserves. Governments, on the other hand, often take a more ambiguous view—arguing that it should also be allowed to draw down previously accumulated deposits in the central bank. In addition, there seems to be no practical institutional mechanisms which can prevent government borrowing from the central bank. Most government's borrowing from the central bank occurs through debits on the main government account in the central bank, not through any formal contractual lending. If, for example, during the implementation of the budget, the actual domestic financing requirement is larger than the net securities issuance planned in the budget, government's position with the central bank is likely to worsen until there is a revision to the quantum of securities issued to the market. The ideal could have been for the governments to take responsibility for managing their own cash flows, so that they meet their domestic financing requirement in full from the market, by issuing securities, rather than running down their positions with the central bank.

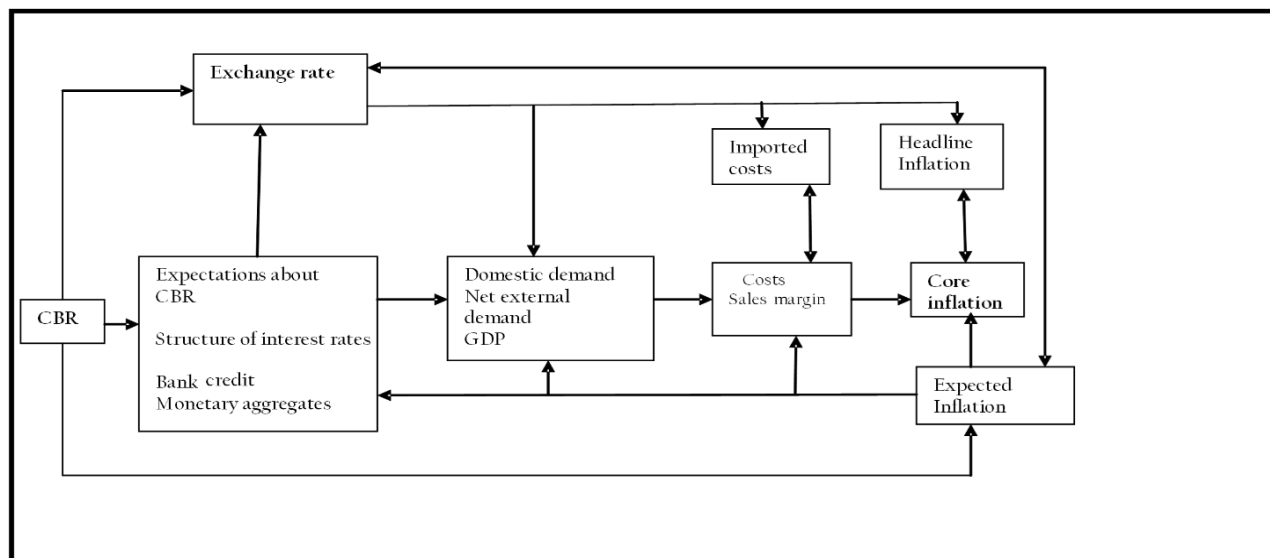
Formulation and Implementation of monetary policy under IT framework

The IT framework employs a policy interest rate—known as the central bank rate (CBR) as the operating target, which is set at short horizon (usually monthly, bi-monthly or quarterly) by the Monetary Policy Committee (MPC) in line with the outlook for inflation and an estimate of the output gap—the difference between the economy's actual and the potential or equilibrium output, and qualitative judgments. As shown in **Table 1**, the outlook for inflation measure varies across central banks. The central banks of South African, Ghana and Mauritius gauge the outlook for overall/headline inflation while the Bank of Uganda focus on core inflation—arguably because it excludes volatile items of Energy, food and utilities that the central bank has no control over.

Regarding the qualitative judgments if, for example, the MPC believes that over the forecast horizon, the considerations alluded to above are tilted on the upside, it will usually raise the CBR and vice versa. So, to speak, an increase in the CBR would aim to slow down demand and consequently reduce inflation while a decrease in the CBR would be intended to increase demand and boost the overall level of economic activity in the economy.

Effectiveness of monetary policy depends crucially on the transmission of a policy change to output and ultimately to inflation. Monetary transmission process begins with the central bank announcing a policy action and engaging in open market operations to bring short term money market interest rates in line with the policy rate. **Fig. 3** depicts the way IT central banks envision how policy actions are transmitted to the rest of the economy via the interest rate channel.

Figure 3: Monetary Policy Transmission Mechanism.



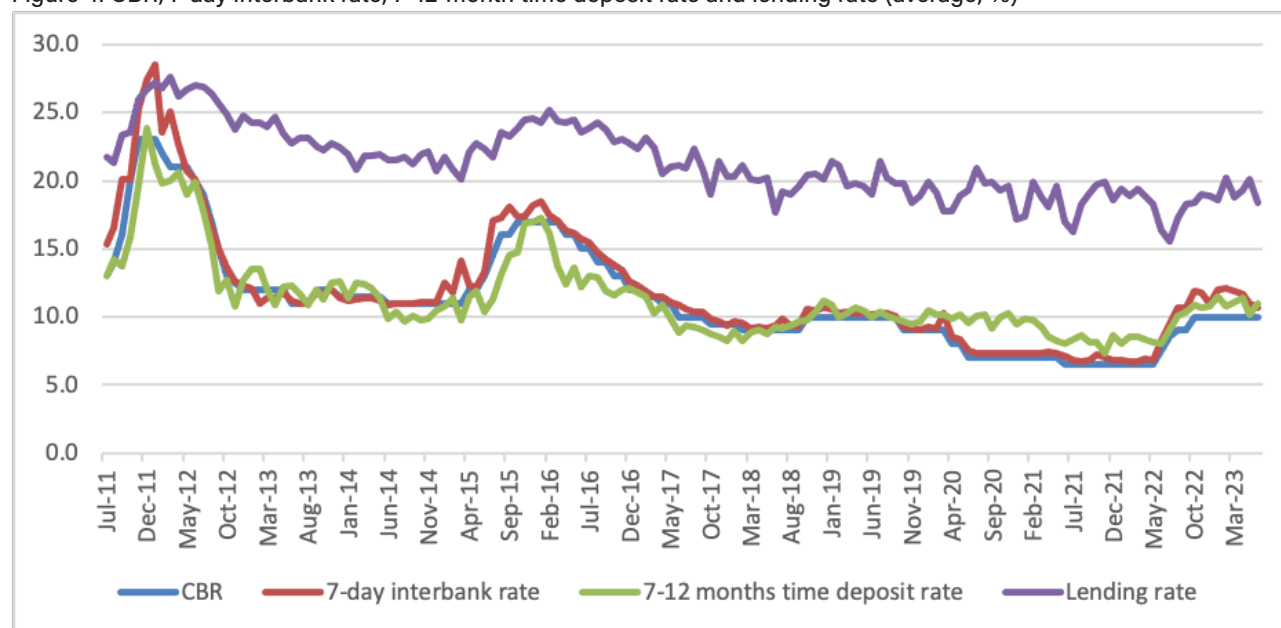
It shows that when the central bank raises the policy rate, first, money market interest rates will rise as a result of the central bank's open market operations. Second, the term structure of interest rates will change according to expected future short-term interest rates. Third, retail interest rates of commercial banks will rise in accordance with the term structure of interest rates. Fourth, given price stickiness in the short run, long-term real interest rates will rise. It is this final development that will slow down consumption and investment of households and firms because of the increased opportunity cost.

The key task for IT central banks in implementing monetary policy is to align a short-term risk-free interest rate with the CBR such that it sets a benchmark for other interest rates in the economy, thereby establishing an interest rate transmission. Most IT central banks we have reviewed choose the overnight and only in the case of Uganda, the 7-day interbank rate (**Table 1**) as the operating target for monetary policy. Uganda chose the 7-day interbank rate understandably because it is less volatile than the overnight despite the overnight commanding a whopping 90% of the interbank market trades (Bwire *et al.*, 2019a). Implementation takes place through regular interventions in the money market, through an offer to the commercial banks for either a repo (which injects liquidity) or a reverse repo (which withdraws liquidity). These are transacted at the CBR, with the central bank accepting all offers from the banks which are consistent with the CBR—in other words, the central bank fixes the price of liquidity and allows the market to determine the quantity. In effect, the central bank offers to pay the CBR on surplus bank reserves. This, unlike the alternative of auctioning a fixed quantity of repos or reverse repos and thus implicitly allowing

the market to determine the price, offers two advantages. First, it ensures that the repo/reverse repo rate matches the CBR at every issue and second, it obviates the need for the central bank to make precise liquidity forecasts before issuing a repo or reverse repo. All that would be needed is to know whether the banks will either need to offload liquidity to the central bank or borrow from the central bank to prevent the interbank rate from deviating from the CBR.

Applying the data to **Fig. 3**, we see a strong link between the CBR and the 7-day interbank market rate (**Fig. 4**) in the case of Uganda (where we found readily available data), establishing, in effect, the first stage in the interest rate transmission mechanism. For most part of the ITL period, the average monthly 7-day interbank market rate has been close to the CBR, deviating from the CBR only momentarily.

Figure 4: CBR, 7-day interbank rate, 7-12-month time deposit rate and lending rate (average, %)

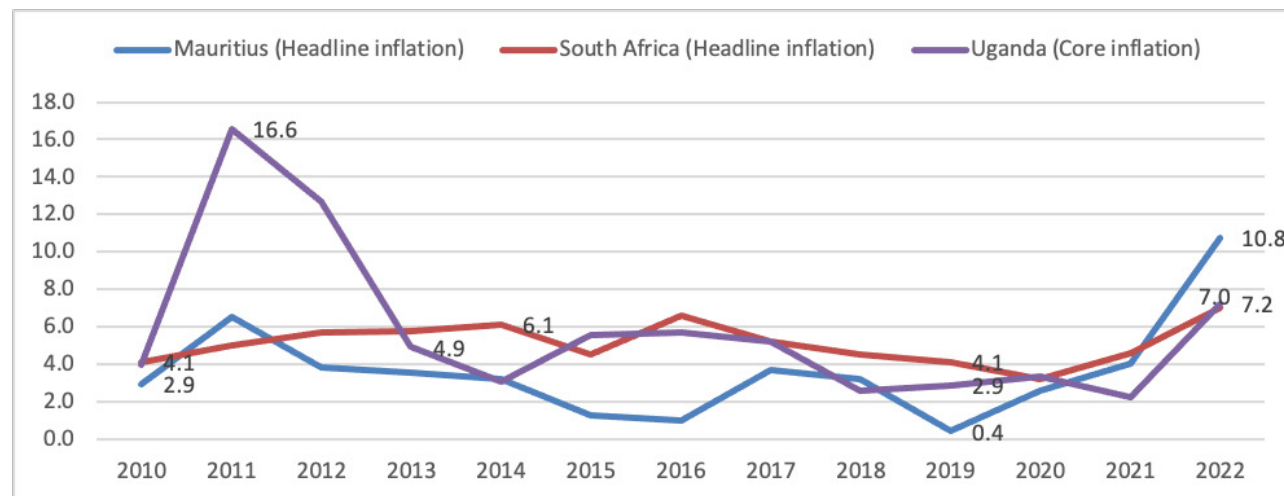


Source: Bank of Uganda

The second stage in the interest rate transmission mechanism involves changes in the interbank rate affecting longer term interest rates, notably time deposit rates and bank lending rates. Average time deposit rates have been slightly more volatile than the 7-day interbank rates, but they have tracked the CBR quite closely since July 2011 (**Fig. 4**). However, it appears there is less success in influencing the bank lending rates, which are stickier than deposit rates. The transmission mechanism to longer term interest rates is, evidently, asymmetric.

The data, overall, reveals that the IT practicing central banks have been very successful in anchoring consumer price inflation around their respective medium-term targets for headline and core inflation. Mauritius and South Africa operates a point and range targets for headline inflation of 8% and 3-6%, respectively while for Uganda is $5\pm 3\%$ for core inflation over the medium-term. Over the period 2013-2022, headline inflation in Mauritius and South Africa, and core inflation in Uganda have remained appropriately tamed at target or held within the tunnel of the target bands, breaching only in 2022 on multiple shocks, but even so, remained within the upper band for some countries (**Fig.5**).

Figure 5: Inflation trends for Mauritius, South Africa and Uganda



Source: World Development Indicators, published by the World Bank.

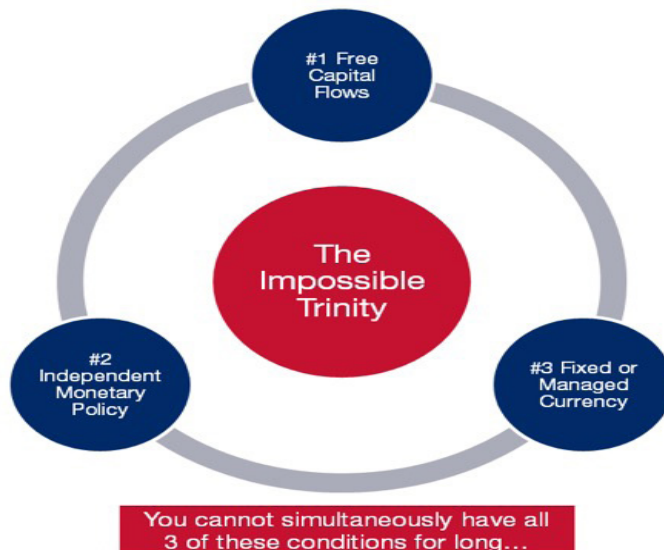
Exchange rate policy and monetary policy

The fact that exchange rate fluctuations are a major concern in so many low-income countries, raises the danger that monetary policy may put too much focus on limiting exchange rate movements, even under an IT regime. 'Impossible trinity': where you are in a house that is burning, and you have the option to save only two out of three people. A country cannot simultaneously fix the exchange rate, have an open capital account and pursue an independent monetary policy. Only two out of these three objectives are mutually consistent. The impossible trinity is summarized in **Fig. 6**.

The policy targets of the IT framework are domestic targets; headline and/or core inflation and output. Including the exchange rate among the targets for monetary policy would seriously compromise the central bank's ability to deliver low inflation. The *de*

facto exchange rate, under the IT monetary policy framework is floating, to ensure that the balance of payments is sustainable. However, because capital mobility is far from perfect given the small size of regional domestic financial markets, authorities may not be and indeed should not be indifferent to movements in the exchange rate when short-term fluctuations jeopardize its orderly operations. The nominal exchange rate has an important influence on inflation, while the real exchange rate matters for the competitiveness of traded goods industries, which is crucial for long run development.

Figure 6: Impossibility trinity



From the backdrop above, most of the IT central banks on the African continent which we have reviewed manage the exchange rate float through sterilised intervention, which is motivated, majorly, by two objectives. The first is to dampen short term exchange rate volatility, i.e., sharp daily movements in the exchange rate especially when such movements are not driven solely by economic fundamentals, but not to determine the direction or level of the exchange rate which are necessary to maintain external balance. The second motive is to avert sustained real appreciation beyond what is estimated to be the long-term equilibrium real effective exchange rate. The latter, however, may turn out problematic especially if the appreciation pressure is strong such that there is need for repeated interventions. Such sterilization may contribute to the accumulation of structural liquidity and instead create potential problems for the implementation of monetary policy.

Communications

In a market economy, transparency and communication are central to the effectiveness of monetary policy for several reasons. First, having a clear objective supports credibility and helps anchor inflation expectations. Second, adopting an explicit monetary policy strategy helps markets and the public to understand how the central bank is likely to respond to economic and monetary developments—the central bank's so-called “reaction function.” A credible objective and a well-understood reaction function allow financial markets and the public to form reasonable expectations about the future interest rate policy, which, in turn enhances the central bank's capacity to influence interest rates at longer maturities and steer broader financial and economic conditions.

Under monetary targeting, central banks are rather secretive and more inclined towards locking away their reasoning. Markets only have to guess what the central bank is doing. However, under the IT, central banks quickly realize that they are more likely to fulfil their mandates if they inform the public and the markets about their strategy, assessments and policy decisions and the reasons which underlie it in an open, clear and timely manner. The presumption is that market participants make more efficient decisions when markets can correctly predict the central bank actions.

The key component of the communications strategy, in the IT central banks, is the press briefing which follows the MPC, at which the Governor reads out a monetary policy statement (MPS) and answers questions from the press. The MPS, minutes of the MPC and the monetary policy report—which includes material from the reports presented to the MPC are uploaded to the central bank website, almost immediately after the MPS. Thereafter, the central bank Communications and Research Departments use speeches by the Governor and Deputy Governor to address monetary policy issues, and in particular, to explain how the IT framework works. These are also posted on the website. This notwithstanding, it is important to take note of the concerns regarding the quality of macroeconomic analysis, even in the serious local media, which may not be very high.

Challenges to Formulation and Implementation of monetary policy under IT framework

A review of the experiences of the IT practicing central banks reveal that decision making on policy choices is impeded, in general, by a large degree of uncertainty pertaining to forecasts, data availability and estimates of the output gap, and the transmission mechanism of monetary policy.

Getting accurate forecast for inflation remains by far challenging. Inflation is subject to supply side shocks and is very sensitive to exchange rate movements. Until recently but still persistent, a quantitative forecast of inflation, in most central banks, is derived based on historical data, in particular, past trends of inflation, and other macroeconomic aggregates. Common analytical methodologies for this kind of data have proven very useful for very short-term forecasts but less so for 12-months ahead forecasts. Given this limitation, most central banks, with the help of the IMF technical assistance, have either developed

or are developing a Quarterly Projection Models (QPM) within the Forecasting and Policy Analysis System (FPAS)—a system designed to incorporate forward-looking transmission mechanism and expert judgement from outside the model framework; so is more suited for making forecasts beyond the very short term. While this is commendable, experiences with external shocks to the scale of Covid-19 pandemic underscores the necessity for the QPM framework to incorporate deeper analysis particularly in times of elevated uncertainty, and large complex and common shocks. To this end, developments of satellite models to enhance near-term forecasting is of absolute essence.

Incorporating the output gap into the setting of the policy rate remains by far very problematic. Reflecting weak statistical bases, most countries in the region don't have accurate timely data with which to monitor real output. Quarterly estimates of real GDP (where they exist; most are annual) are at least three months out of date and tend to be erratic and subject to revision. In addressing this data gap, some central banks innovatively compile a monthly composite index of economic activity, (CIEA) or use purchasing manager index (PMI), which, in principle should provide more up-to-date information on the real economy. However, even so, it is not quite obvious how CIEA or even PMI accurately tracks trends in the real economy and is at best work in progress. A suitable candidate to overcoming this data challenge and hence facilitate up-to-date decision making is to align the forecasting calendar with quarterly National Accounts data releases (where this exists).

Understanding the transmission mechanism of monetary policy also remains a major challenge in most of the jurisdictions (Mishra and Montiel, 2012), impeding quantitative forecasts of how a change in the policy rate will likely affect future inflation. While it is likely that the transmission mechanism operates through four channels; an interest rate channel, a bank lending channel, an exchange rate channel and an expectations channel, the relative importance of these various channels is not very well understood.

Empirical evidence from the studies commissioned by COMESA Monetary Institute (CMI) on the subject in 2023 suggests that the exchange rate has an important influence on inflation, especially through its impact on traded goods prices—in what is technically termed as “exchange rate pass-through”. Econometric estimates of the long run pass-through of the exchange rate to inflation in COMESA countries is, on average, around 0.48, which is huge—potentially posing a problem for purposes of forecasting inflation. One of the major variables driving inflation is very volatile and is itself very difficult to forecast. Furthermore, except when there are large changes in the CBR, the policy interest rate may not have much impact on movements in the nominal exchange rate.

The other major challenge is segmentations in the interbank market which derails the transmission of monetary policy signals. The interbank markets provide the location for the IT central banks to implement their monetary policies. It is, therefore, crucial that these are deliberately developed. Research has shown that central banks can achieve this by promoting competition

essentially through encouraging wider participation in the interbank market from bank and non-bank financial institutions; developing collateral markets and interbank trading instruments of different tenors; and enhancing transparency and frequency of information disclosure (Odur *et al.*, 2014; Murinde *et al.*, 2018; CMI country studies, 2021; Raga and Tyson, 2021; Bwire *et al.*, 2019b; Bai *et al.*, 2019; Chipili *et al.*, 2019; Kanyumbu, 2019). The old age issues of fiscal dominance and inconsistencies between the monetary and fiscal policy, among others, remains.

Conclusions and Implications for Policy

Necessitated by the rapid and widespread adoption of FinTech, transformation of the payment systems, structural shift in economic conditions and the need to better anchor inflation expectations, central banks are fast transitioning to forward-looking monetary policy frameworks, the workhorse being IT framework. The existing IT practicing African central banks we have reviewed suggest that substantial progress has been made in some aspects of the framework while other aspects still require more attention. Most progress has been made in establishing an interest rate transmission mechanism whereby changes in the policy interest rate are passed through to short term interbank rates and other wholesale funding rates, albeit asymmetrically. There has also been substantial progress in communications, where the interest rate decision and the reasons behind it are obtaining extensive coverage in the media and influencing the analysis of major market participants. These experiences provide a good learning curve for the rest of the central banks in transition.

We have also noted a number of aspects of the IT framework where further progress is needed, including a firmer institutional arrangement with the ministries of Finance to avoid central bank financing of the fiscal deficit. There is also a glaring need for central banks to strengthen their inflation forecasting capacities and data and improve understanding of the monetary policy transmission mechanism.

It is pertinent that authorities decisively address the old age issue of fiscal dominance. Domestic financing of the budget should be separated from monetary policy and so is government borrowing from the central bank which in as much as possible should be avoided. Primary issues of government securities should only be used for mobilising finance for the budget. Likewise, governments should take responsibility for managing their own cash flows to meet their domestic financing requirement in full from the market, by issuing securities, rather than running down their positions with the central bank.

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