Central Bank of Kenya

Modernisation of the Monetary Policy Framework and Operations

July 2021

FOREWORD

Kenya's monetary policy framework is evolving from monetary aggregate targeting to a forward-looking monetary policy approach. This evolution was necessitated by the rapid and widespread adoption of new technology in the financial sector since 2007, transformation of the payments system, a structural shift in economic conditions and the need to better anchor inflation expectations. Whereas these developments have expanded financial inclusion and deepened the financial sector, they have weakened the efficacy of the monetary aggregate targeting framework.

Against this background, the Central Bank of Kenya (CBK) has been implementing reforms aimed at strengthening the monetary policy framework. These reforms focus on strengthening the policy formulation tools, upgrading implementation infrastructure, ensuring effective communication, improving policy transmission and enhancing financial system stability. Despite the tremendous achievements so far, some issues remain to be addressed to enhance the effectiveness of monetary policy. In this regard, the Monetary Policy Committee (MPC) has developed this White Paper outlining additional reforms to further strengthen the monetary policy framework and operations. The envisaged reforms form a major building block towards the achievement of the CBK's vision of a World-Class Modern Central Bank.

The White Paper was developed in a series of events, including discussions at a retreat of the MPC members, insights from peer country experiences, Technical Assistance (TA) mission from the International Monetary Fund (IMF) in February 2020, as well as internal reviews by CBK Staff. I would therefore like to thank the members of the MPC for developing this White Paper. In addition, we are grateful to the IMF for fielding the TA mission, which provided very useful recommendations in the areas that required further reforms. I also express my gratitude to Dr. Louis Kasekende, Former Deputy Governor Bank of Uganda, for useful insights on monetary policy frameworks. Finally, I thank the CBK staff for their invaluable support to the MPC in the preparation of this paper.

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ABBREVIATIONS AND ACRONYMS

AML/CFT	Anti-Money Laundering and Combating Financing of Terrorism
APR	Annual Percentage Rate
BMF	Bond Market Forum
CBK	Central Bank of Kenya
CBR	Central Bank Rate
CEOs	Chief Executive Officers
CMA	Capital Market Authority
CPI	Consumer Price Index
CRBs	Credit Reference Bureaus
CRR	Cash Reserves Ratio
CSD	Central Securities Depository
DMF	Debt Market Forum
DSGE	Dynamic Stochastic General Equilibrium
EDW	Enterprise Data Warehouse
ESG	Environmental, Social and Governance
FinTech	Financial Technology
FPAS	Forecasting and Policy Analysis System
IMF	International Monetary Fund
KBA	Kenya Bankers Association
KBRR	Kenya Banks Reference Rate
MPAC	Monetary Policy Advisory Committee
MPC	Monetary Policy Committee
MPMC	Monetary Policy Management Committee
MSMEs	Micro, Small and Medium Enterprises
NSE	Nairobi Securities Exchange
OMO	Open Market Operations
QPM	Quarterly Projection Model
RBCP	Risk Based Credit Pricing
SACCOs	Savings and Credit Cooperatives
SMEs	Small and Medium Enterprises
TA	Technical Assistance
TAD	Term Auction Deposits
TCC	Total Cost of Credit
UNFCCC	United Nations Framework Convention on Climate Change

VISION

The Vision of the Bank is to be a World Class Modern Central Bank.

MISSION

To formulate and implement monetary policy for price stability, foster a stable market-based financial system and ensure sound national payment system.

MANDATE

Article 231 of the Constitution of Kenya and Sections 4 and 4A of the Central Bank of Kenya (CBK) Act outline the key mandate of Central Bank of Kenya (CBK) as to:

i. Formulate and implement Monetary Policy directed to achieving and maintaining stability in the general level of prices.
ii. Foster the liquidity, solvency and proper functioning, efficient, sound and stable market-based financial system.
iii. Formulate and implement such policies as best to promote the establishment, regulation and supervision of efficient and effective payment, clearing and settlement systems.
iv. Design, issue and manage efficient distribution of quality currency (notes and coins) that are easily accepted and secure against counterfeiting.
v. Support the Government's economic and financial policies including its objectives for growth and employment.

The other mandates of the Bank include:- formulating and implementing foreign exchange policy; effective management of the nation's foreign exchange reserves; licensing and supervising authorised dealers; act as banker and adviser to, and fiscal agent of the Government.

OUR CORE VALUES

Transparency, Accountability and Integrity

The Board, Management and staff will always act in a transparent and accountable manner when handling all the affairs of the Bank both internally and with external parties so as to uphold the Bank's image at all times. In addition, the Bank will uphold high standards of ethics, integrity and honesty as guided by the Constitution, act in an ethical manner as guided by the Leadership and Integrity Act and Public Officers' Ethics Act, and observe high moral standards.

Commitment

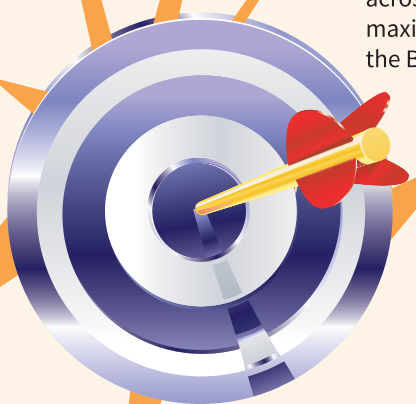
The Board, Management and staff are committed to implemeting the Bank's mandate as stipulated in the Constituion of Kenya and the CBK Act.

Diversity and Inclusiveness

The Bank appreciates and embraces the differences in its employees' skill set and abilities and encourages consultations and inclusiveness in pursuit of its mandate across departments. This is aimed at maximising productivity and enhancing the Bank's overall performances.

Efficiency & Effectiveness

The Bank will at all times undertake its operations in the most cost efficient and effective manner while maintaining high standards of performance in execution of its mandate.



Mutual Respect and Team Work

Mutual respect shall at all times be observed internally amongst colleagues and when dealing with the Bank's external clients. In addition, the Board and staff will cooperate and collaborate to enhance performance and create a healthy work environment.

Professionalism and Relevance

The Board, Management and staff will always endeavour to offer quality services to its internal and external stakeholders, diligently observing high professional standards at all times and respecting the rules and regulations set by the Bank. All initiatives and activities undertaken remain relevant to the Bank's strategic objectives in pursuit of its core mandate.

Innovativeness

The Bank will encourage, nurture and support creativity and the development of new ideas and processes for the continued improvement of organisational performance.

MEMBERS OF THE MONETARY POLICY COMMITTEE

Dr. Patrick Njoroge
Governor

Mrs. Sheila M'Mbijjewe
Deputy Governor

Dr. Margaret Chemengich
External Member

Dr. Julius Muia
PS, The National Treasury

Prof. Jane K. Mariara
External Member

Mr. David Luusa
Director, Financial Markets

Mr. Humphrey Muga
External Member

Dr. Benson Ateng'
External Member

Prof. Robert Mudida
Director, Research

EXECUTIVE SUMMARY

Over the last two decades, the monetary policy framework in Kenya has evolved from a purely monetary aggregate targeting framework towards a more forward-looking framework. Like other countries, Kenya has experienced numerous constraints in conducting monetary policy under the monetary aggregate targeting framework due to the changes in the financial and economic environment. The monetary aggregate targeting framework is anchored on a predictable and stable relationship between money supply and inflation. However, previous studies on Kenya show that the link has weakened due to transformation of the payments system, a shift in economic agents' preferences towards digital financial platforms as opposed to physical cash, and other structural shifts in the economy.

Leveraging on the legal framework entrenched in the Constitution of Kenya 2010 and the Central Bank of Kenya (CBK) Act, the CBK initiated and is implementing various reforms to support monetary policy formulation, modernise the implementation infrastructure, enhance policy transmission and communication, and strengthen financial stability. These reforms provide a strong foundation for a sound, effective and forward-looking monetary policy framework. The reforms embrace a data centric and transparent monetary policy strategy. Some of the recent and ongoing reforms include:

i. Strengthening the institutional framework for monetary policy formulation through the creation of the Monetary Policy Committee (MPC) to enhance credibility in the conduct of monetary policy and public accountability;
ii. Improving the operational framework through the adoption of the Central Bank Rate (CBR) as the signal of the monetary policy stance;
iii. Adoption of elements of a forward-looking monetary policy framework, in particular, the use of Forecasting and Policy Analysis System (FPAS) to generate macroeconomic forecasts;
iv. Institutionalisation of the assessment of inflation expectations through Market Perception Surveys;
v. Roll out of an upgraded Central Securities Depository (CSD) to improve CBK monetary operations and the functioning of the interbank market;
vi. Implementation of the Enterprise Data Warehouse (EDW) to facilitate near-real time data capture and analysis;
vii. Issuance of the Kenya Banking Sector Charter to improve transparency and promote ethical culture in the banking industry;
viii. Introduction of new Credit Reference Bureau Regulations 2019, to support the risk-based pricing pillar of the Banking Sector Charter;
ix. Launch of a cost of credit website, in collaboration with the Kenya Bankers Association, which provides information on fees and charges relating to loan products; and
x. Strengthening monetary policy communication through the adoption of a comprehensive strategy to facilitate wider dissemination of policy decisions and the information supporting the decisions. The key facets of the strategy entail regular and timely engagements with a wide range of stakeholders, and diversification of communication channels including increased use of social media for wider outreach.

Despite these developments, some issues still need to be addressed, particularly in areas that would enhance the effectiveness of a forward-looking monetary policy framework. Some of the issues include misalignment of the policy rate and short-term rate due to inefficiencies in the interbank market, largely attributed to segmentation and need to enhance transparency in commercial bank loan pricing in order to strengthen transmission of monetary policy signals. Moreover, the placement of three banks under receiverships in 2015 and 2016 and the interest rate caps that were in place between September 2016 and November 2019, undermined the transmission of monetary policy and slowed down the process of modernising monetary policy framework and operations.

In order to address these weaknesses and complete the process of adopting a forward-looking monetary policy framework, CBK has undertaken its own internal assessment, and also reviewed experiences of other countries that have adopted a forward-looking monetary policy framework. The main objective was to draw lessons that can guide further modernisation of Kenya's policy formulation and implementation and enhance efficiency of the interbank market as well as support financial system stability. The experiences of selected countries that have adopted a forward-looking framework show varying degrees of success and challenges with the framework. They reveal that deviation of inflation from the target can emanate from different sources, including exogenous shocks, fiscal dominance, supply-side constraints on food prices, structural liquidity and volatility of the exchange rate. Consequently, its implementation requires a framework that can mitigate or minimise the impact of these constraints.

The Monetary Policy Committee conducted a review of the current monetary policy framework to determine the aspects that would be improved. In addition, the IMF provided Technical Assistance on monetary policy design and implementation in February 2020 to assist CBK in identifying further areas of enhancement. Based on this review, Kenya's unique characteristics and experience, as well as the experiences of other countries, the MPC concluded that the objective of price stability and the current institutional arrangements for monetary policy formulation remain appropriate in ensuring achievement of the monetary policy objective. Nevertheless, the MPC proposes a package of additional reforms to further strengthen the monetary policy decision process, monetary policy transmission and implementation. Some of the measures include:

- Continuing to diversify/enhance the forecasting and analytical tools;
- Strengthening the functioning of the interbank market, including enhancing liquidity distribution via effective implementation of a modern CSD to support increased efficacy via a wide range of transaction types and settlements;
- Strengthening monetary policy operations by implementing a band around the CBR to provide an anchor for the interbank rate;
- Improving transparency in loan pricing framework; and
- Continuing to enhance monetary policy communication.

1. INTRODUCTION

1. **Kenya's monetary policy framework has evolved over the years with the primary objective of ensuring effectiveness in achieving and maintaining price stability.** Inflation has declined progressively with better macroeconomic management; falling from the double digits witnessed in the 1990s to average 8.6 percent in 2000-2009, 7.1 percent in 2010-2019 and 5.5 percent in 2020-2021. The improved monetary policy effectiveness is supported by reliance on market-based policies, institutional and money market reforms, increased Central Bank independence and transparency, and stronger coordination between the monetary and fiscal authorities.[1] Additionally, monetary policy formulation and implementation has continued to be underpinned by a flexible exchange rate regime, which ensures independence of monetary policy and is an automatic stabiliser against external shocks.

2. **The Central Bank of Kenya (CBK) has continued to strengthen the monetary policy framework due to changing economic and financial conditions, by adopting a forward-looking monetary policy approach.** Prior to 2008, the conduct of monetary policy was based entirely on a monetary aggregate targeting framework. Nevertheless, due to the rapid deepening of the financial market, increased use of electronic payment system over cash and a deepening of financial inclusion, the relationships underlying the monetary aggregate targeting framework became unreliable. Therefore, in order to better anchor inflation expectations, CBK embarked on reforms geared towards transforming its framework from the quantity-based monetary aggregate targeting framework to a forward-looking monetary policy framework.

3. **However, the pace of transforming the monetary policy framework slowed down with the introduction of interest rate caps in September 2016, and the disruptions caused by the placement of three banks under receivership, which undermined the effectiveness of monetary policy transmission.[2]** Previous analyses by CBK and other studies showed weak monetary policy transmission, partly due to lack of transparency and pricing of loans as well as constraints to effective functioning of the interbank market.[3] The introduction of interest rate caps further hindered monetary policy effectiveness, with evidence of both delayed policy transmission and perverse outcomes.[4] In particular, monetary policy transmission to growth and inflation took 3-12 months and 12-20 months, respectively, which was 3-5 months longer compared to the period before caps. In addition, imposition of caps reduced the impact of change in the CBR on credit to the private sector by about 0.5 percent (for a 50 basis points change in CBR) and there was evidence of perverse outcomes following a monetary policy action, particularly a reduction in loan advances by some banks after the lowering of the CBR. In addition, the placement of three banks in receivership temporarily disrupted the proper functioning of the interbank market with implications for effective transmission of monetary policy signals through the interbank market.

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[1] For the benefits of Central Bank independence, particularly its role in price stability, see Njoroge, Kanga and Murinde, (2021).

[2] Recent studies show that the interest rate, exchange rate and bank lending are the main channels of monetary policy transmission in Kenya, (Mwega, 2014; Were et al., 2014; Misati et al. 2014; Maturu and Ndirangu, 2013; and Sichei and Njenga, 2012). Other details on monetary policy transmission are available in Appendix 6.

[3] Cheng, (2006).

[4] MPC Press Release, July and November 2018; CBK (2018).

4. Following the repeal of interest rate caps in November 2019, the resolution of the banks in receivership, and significant strengthening of the banking sector underpinned by sound and ethical practices, the Monetary Policy Committee (MPC) considers the circumstances as opportune for progressing with initiatives to strengthen the monetary policy framework. The repeal of interest rate caps restored the clarity of monetary policy decisions and was expected to strengthen the transmission of monetary policy. Furthermore, commercial banks have adopted the Banking Sector Charter, which defines a commitment to entrench a responsible and disciplined banking sector.[5] Implementation of the Charter has significantly improved practices in the banking sector and is expected to further entrench (i) adoption of customer centric business models by banks, (ii) risk based credit pricing; (iii) enhanced transparency and information disclosures; and (iv) an ethical culture in banks.

5. Against this backdrop, the MPC held retreats in January 2020 and March 2021 to review additional reforms to further strengthen and modernise the monetary policy framework. The MPC reviewed the status of Kenya's monetary policy framework and its effectiveness, the experiences of peer countries on the transition and implementation of a modern monetary policy framework, and received IMF Technical Assistance in February 2020 on monetary policy design and implementation in Kenya. Based on these inputs, the retreats and internal reviews by the CBK, the MPC developed this White Paper outlining the strategy to strengthen and modernise the monetary policy framework in Kenya.

6. The singular objective of this White Paper is to chart a course for strengthening the monetary policy framework and operations in Kenya. The rest of the paper is organised as follows: Chapter 2 discusses the evolution of Kenya's monetary policy framework including the elements of the current monetary policy framework. Chapter 3 discusses experiences of selected peer countries with forward-looking monetary policy frameworks while Chapter 4 highlights the implementation status of the forward-looking monetary policy framework. The measures to strengthen the monetary policy framework are discussed in Chapter 5, while Chapter 6 provides the commitments by the MPC.

[5] MPC Press Release, November, (2019)

2. EVOLUTION OF THE MONETARY POLICY FRAMEWORK

7. **Over the last two decades, Kenya's monetary policy framework has evolved from a monetary aggregate targeting framework to a forward-looking monetary policy approach, mainly due to changing economic and financial conditions.** Prior to 2008, the conduct of monetary policy was based on a monetary aggregate targeting framework. However, due to the rapidly transforming economic dynamics and the changing conditions in the financial market, with increased use of electronic payments instead of cash, the assumptions of a stable demand for money and money multiplier underlying the monetary aggregate targeting framework became unreliable. Consequently, the link between monetary aggregates and the price stability objective weakened thus undermining monetary policy transmission. CBK therefore embarked on reforms to better anchor inflation expectations and support adoption of a forward-looking monetary policy framework. Whereas CBK's primary objective of price stability has not changed, the shift from monetary aggregate targeting framework to a forward-looking monetary policy framework entailed changes in the operating and intermediate targets from quantity-based operating targets to price-based targets. The operating targets under the monetary aggregate framework was reserve money while short term interest rates are the operating targets under a forward-looking monetary policy framework. An operating target of monetary policy is an economic variable, which the central bank can control, to a large extent on a day-by-day basis through the use of its monetary policy instruments. An intermediate target on the other hand is an economic variable that the central bank can control with a reasonable time lag and with a high degree of precision, and which is in a relatively stable or at least predictable relationship with the final target of monetary policy, of which the intermediate target is a leading indicator. Broad money served as the intermediate target under the monetary targeting framework while inflation forecast is the intermediate target under a forward-looking monetary policy framework.[6]

2.1 Monetary Aggregate Targeting Framework and Challenges

8. **Prior to 2008, monetary policy was conducted under the monetary aggregate targeting framework in Kenya.** The monetary aggregate framework had been improved over the years and it involved adjustment of monetary policy instruments to target the growth rate of a selected measure of money supply consistent with the inflation target. In this case, reserve money served as the operating target while broad money was the intermediate target. Effectiveness of this framework requires a stable money demand function, which is dependent upon a stable velocity of money and money multiplier.[7] This is necessary for a strong and stable relationship between monetary aggregates and the price stability objective of monetary policy. In this case, a path consistent with price stability can be derived for the monetary aggregate.[8] It is also assumed 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 broad money growth.[9]

[6] See Maehle, (2020), on operating and intermediate targets for different monetary policy frameworks.

[7] The instability of the money demand function contributed to the adoption of inflation targeting across countries. These include, New Zealand, Canada, Australia, Israel, Sweden, Czech Republic, United Kingdom, South Africa, Ghana, Mauritius and Uganda, (Dunne and Kasekende, 2016; Laurens et al., 2015; Jahan, 2012; Heintz and Ndikumana, 2010; Porter, 2005).

[8] See Robert and Nicolini, (2015) and Anderson, (1985).

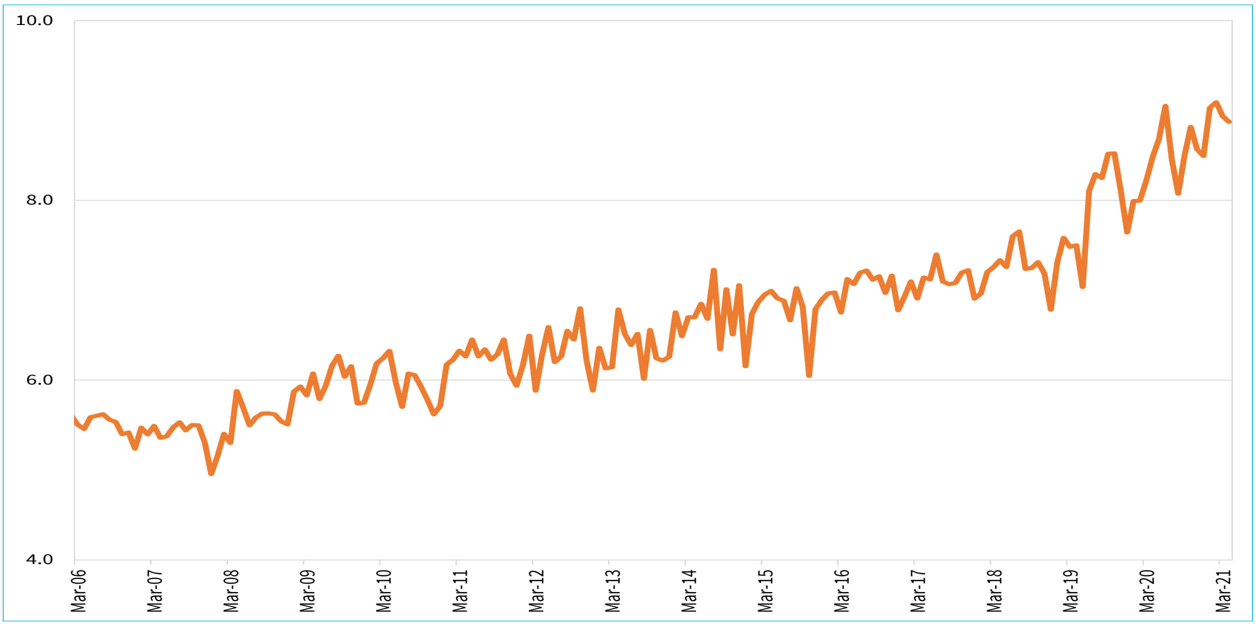
[9] For details of monetary aggregate targeting framework, see Dua, (2020); Cheelo and Banda, (2017); IMF (2015); Award, (2010); ECB, (2001), and Mishkin, (1998). Bernanke and Mishkin, (1997) is relevant for inflation targeting frameworks.

9. Rapid innovations in Kenya's financial system and the replacement of cash by digital financial transactions has significantly weakened the reliability of the monetary targeting framework. Financial innovations, particularly in the payments systems, have led to widespread use of electronic payments resulting in moderated demand and use of physical cash in many countries including Kenya (Dabrowski, 2017; Govil, 2014). The Kenyan financial system, facilitated by technological advancements, has continued to evolve and deepen supported by the advent of the mobile financial services in 2007 when the M-Pesa product was launched. Leveraging on this technology, traditional financial service providers have adopted new business models and non-bank players have entered the market leading to increased and diversified menu of online and mobile financial products and services available on various digital platforms for economic agents. Moreover, recent policy measures aimed at encouraging usage of mobile and online financial services to minimise the transmission of COVID-19 amplified the use of digital services and products with possibilities of entrenchment of customer habits. The shift from preference of cash towards digital platforms is manifested in the rapid growth in key indicators of mobile financial services and digitalisation.[10] Consequently, the business models of economic agents have changed as well as the relationship and developments of key monetary aggregates whose stability underlie the monetary aggregate targeting framework.

10. Trends in the monetary aggregates show instability in key parameters underlying the monetary targeting framework in Kenya. In particular, the money multiplier and velocity of money have been volatile, thereby thwarting the stability and predictability of money demand. The preference for digital platforms over cash has changed the composition of some monetary aggregates, resulting in a volatile and rising money multiplier.[11] A changing money multiplier leads to an unpredictable link between reserve money (the operational target) and broad money (the intermediate target), which could weaken the link between inflation and monetary aggregates. Therefore, achieving the operational and intermediate targets may not guarantee the attainment of the ultimate price stability goal. The volatility of the money multiplier is visible in Figure 1a on page 10, which shows rising trends from 5.5 in March 2007 to 8.9 in March 2021. Figure 1b on page 10, also shows that the velocity of money generally declined from 2.9 in March 2007 to 2.4 in December 2015. Thereafter, the velocity of money increased to stand at approximately 2.7 in December 2020, partly reflecting efficiency gains from technology and innovations with GDP rising faster than broad money due to growth in sectors that were not dependent on credit to the private sector. The volatility of these key parameters implies weakened efficacy of the monetary aggregate targeting framework and hence underpins the continuing reforms in Kenya that are geared towards an alternative monetary policy framework.[12]

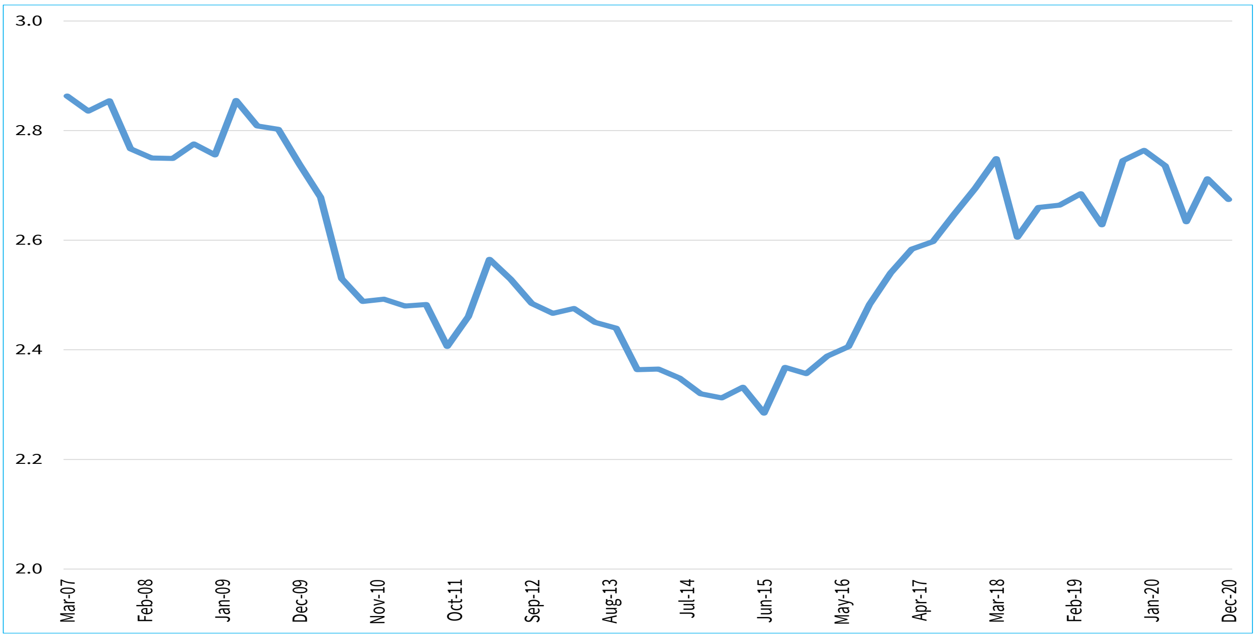
[10] Refer to Figure 1 in Appendix 3.
[11] Refer to Figure 2 in Appendix 3 on declining trends of currency outside banks.
[12] Further support of observed trends is also available in some previous studies using Kenyan data that show evidence of unstable money demand function manifested in unstable velocity and money multiplier, (Ndungú, 2021; 2018; Asongu et al., 2020; Ndirangu and Nyamongo, 2015; Andrle et al., 2013; Sichei and Kamau, 2012)

Figure 1a: Dynamics of Money Multiplier (Money Supply, M3/Reserve Money)



Source: Central Bank of Kenya

Figure 1b: Velocity of money (Nominal GDP/M3)



Source: Central Bank of Kenya

11. Despite the impact of financial innovations on the efficacy of the monetary aggregate targeting framework, the innovations have provided a strong foundation for strengthening monetary policy framework. The new financial products and modern payments systems have boosted financial inclusion and increased tendency among economic actors to increasingly focus on interest rates in their consumption and savings decisions, which is supportive of monetary policy transmission. In particular, enhanced access to credit and savings products imply increased sensitivity of economic agents to the cost of credit and return on savings. This is evident in the increased segment of the population accessing formal financial services from 26.7 percent in 2006 to 82.9 percent in 2019 while complete exclusion has narrowed to 11.4 percent from 41.3 percent over the same period as per the 2019 FinAccess household survey report, CBK, (2019). This implies that the previously financially excluded segments of the population, including low income earners, have access to diversified financial services and can therefore access different loan and saving products such as M-Shwari, which are responsive to changes in interest rates. In addition, there has been improved participation in government securities market over the years by retail investors, particularly with the introduction of the Central Bank of Kenya-Treasury Mobile Direct (CBK-TMD).[13] A forward-looking monetary policy that uses interest rates to guide market expectations is therefore appropriate. In addition, the price of money, which is interest rate, and the price of goods and services as measured by inflation are more easily understood by the general public and market players. This enables more effective communication, greater transparency and strengthens accountability of the CBK.

2.2 Reforms Towards a Forward-Looking Monetary Policy Framework

12. A forward-looking monetary policy framework (inflation targeting) is a strategy that communicates a numerical target for the level of inflation over a specified period, with an objective of anchoring long-term inflation expectations.[14] In the framework, the central bank makes public inflation target and then takes measures to steer inflation outcomes towards that target, using tools such as interest rate.[15] Announcement of the inflation target clarifies the central bank's intentions for the market and for the general public and reduces uncertainty about the future course of inflation. In this regard, it serves as a framework for making policy choices and a strategy for communicating the context and rationale of these policy choices to the broader public. It further enhances the possibility of public debate about the direction of monetary policy. The framework therefore has the potential to improve communication between policy makers and the public and provides increased transparency and accountability for monetary policy.[16]

13. The forward-looking monetary policy framework is underpinned by several key elements (IMF, 2015). First, public announcement of a medium-term numerical target for inflation. This medium-term target is underpinned by an annual target provided by the Cabinet Secretary of the National Treasury at the beginning of every fiscal year. Second, institutional commitment to price stability as the primary goal of monetary policy, in which case, a flexible exchange rate and an independent Central Bank is critical. Third, reliable macroeconomic/inflation forecasting capabilities and capacity to survey and analyse inflation expectations. Fourth, a monetary policy communication strategy that is easily understood by market participants and the public, which facilitates anchoring expectations of economic agents around monetary policy direction and actions and for transparency and accountability

[13] CBK-TMD is a mobile based platform by the CBK that allows investors to apply and bid for treasury bills and bonds. The service utilises mobile phone technology to aggregate vital features that enable investors to bid for government securities, receive information on the outcome of their bids after the auction, receive information on their account balances, and get alerts upon the sale or purchase of their securities in the secondary market.

[14] Anchoring inflation implies maintaining stable long-run inflation expectations of the public so that they are relatively insensitive to short-term shocks.

[15] Inflation targeting is a forward-looking monetary policy strategy that is characterised by the announcement of official target ranges for the inflation rate at one or more horizons, and by explicit acknowledgement that low and stable inflation is the overriding goal of monetary policy, (De Gregorio, 2019; Masson et al., 1998).

[16] see Bernanke and Mishkin, (1997)

of central bank in attainment of the inflation objective. Fifth, the operational target for monetary policy implementation is a short-term interest rate, usually the interbank rate which signals the monetary policy stance. A well-functioning interbank market is therefore critical in ensuring effective transmission of monetary policy signals. The intermediate target is an inflation forecast, with varied use of either headline or core inflation measures across different countries.[17]

Institutional Infrastructure Reforms

14. The Constitution of Kenya 2010 anchored the independence of the CBK while Amendments of the CBK Act have strengthened the institutional infrastructure for monetary policy formulation. The role of CBK in formulation of monetary policy and promoting price stability is anchored in Article 231 of the Constitution, which also provides that the CBK shall not be under the direction or control of any person or authority in the exercise of its powers or in the performance of its functions. Prior to the promulgation of the 2010 Constitution, the 2007 revision of the CBK Act incorporated an additional clause requiring that subject to attainment of the Bank's primary objectives, the Bank shall 'support the economic policy of the Government, including its objectives for growth and employment. Additionally, this Amendment provided that "The Minister of Finance shall specify at least every 12 months, the price stability target in consultation with the Bank and economic policies to be taken by the Government". The Central Bank Rate (CBR) used for signaling monetary policy stance was provided for in the CBK Act in 2004, while the mandate of the MPC in formulation of monetary policy was defined in the CBK Act in 2008. The MPC was preceded by a Monetary Policy Advisory Committee (MPAC) whose mandate was purely advisory to the Bank.

15. CBK strengthened modeling and forecasting capacity and adopted the Forecasting and Policy Analysis Systems (FPAS) since September 2013. The CBK in collaboration with the IMF developed an FPAS between June 2012 to June 2014. The FPAS output has formed part of information base for MPC meetings. The framework is a key component of forward-looking monetary policy approaches, with more interest-rate focused operating procedure to achieve inflation objectives. This is a price-based framework as opposed to the previous quantity-based framework. The framework facilitates provision of an economically coherent view of the medium-term outlook with baseline and alternative scenarios for key variables, including the interest rate path, consistent with expected inflation over the medium term.

16. The output from the FPAS framework is supplemented with market expectation surveys. CBK operationalised bi-monthly MPC market perception surveys in 2009 and has since been expanding the scope of capturing expectations of private sector and incorporating the same in the MPC decision making process. The surveys are used to gauge expectations of banks and non-banks sectors on selceted indicators such as inflation, exchange rates, economic activity and private sector credit. Additionally, the CBK has introduced new surveys to supplement the market perception survey. The Chief Executive Officers (CEOs) Survey was introduced in March 2021 to capture perception on pulse of the economy by CEOs of

[17] See Appendix 4 for details on elements of a forward-looking monetary policy framework and differences between monetary targeting and forward-looking monetary policy framework.

Box 1: Forecasting and Policy Analysis System

The Forecasting and Policy Analysis System (FPAS) is a comprehensive framework which involves; (i) collecting and organising key set of macroeconomic variables; (ii) developing near term and medium term forecasting models, which embodies policymakers' view about the transmission mechanisms and relevant shocks that affect the economy; (iii) developing a consistent, model-based macroeconomic forecast including measures of uncertainty and alternative scenarios and (iv) reporting and communicating the forecast to Management and the Monetary Policy Committee.

An FPAS consists of various elements: (i) a team fully dedicated to forecasting with clearly defined responsibilities, (ii) a database infrastructure, (iii) a set of near-term forecasting (small scale projection models) (iv) nowcasting tools (Composite Index of Economic Activity, and Leading Indicators Model) (iv) a quarterly projection model (QPM) for medium term projections and deriving policy recommendations, (v) a regular cycle of meetings to update the forecasts and interaction with senior Management, and (vi) a reporting process that presents the analysis in a clear and straightforward manner.

Of particular interest is the QPM which is based on new Keynesian open economy framework. The QPM consists of four basic equations (i) Aggregate demand (IS curve) that relates the level of real activity to expected and past real activity, the real interest rate, and the real exchange rate; (ii) Phillips curve which is a price setting equation that relates inflation to past and expected inflation, the output and exchange rate gaps; (iii) an uncovered interest parity condition for the exchange rate, which relates the domestic and foreign interest rates with the expected change in the exchange rate, including a risk premium; and (iv) a monetary policy rule (Taylor Rule) for setting the policy interest rate path consistent with output gap and deviation of inflation from target.

In line with the evolving policy environment the FPAS continues to be strengthened. The recent major improvements and extensions include;

1. Decomposition of the Philips Curve by introducing the CPI components (food CPI, fuel CPI and Non-food Non-fuel CPI). The breakdown has helped in distinguishing different factors behind overall inflation dynamics, by isolating the inflation of other components such as non-food non-fuel (NFNF) inflation. NFNF gives an indication of demand-side pressure that is distinct from supply-side shocks.
2. Extension of the external sector block to incorporate more countries that have a significant trade relationship with Kenya.
3. Introduction of the fiscal block to allow analysis regarding the role of fiscal policy in growth and inflation analysis thus assisting in better coordination of monetary and fiscal policy.

non-bank private sector companies. The CBK has continued to explore and introduce sector specific surveys to collect faster, higher frequency and granular indicators of the economy to complement standard indicators, particularly when there are shocks on the economy. For instance, the CBK introduced surveys of hotels and flower farms in September 2020 to monitor the recovery of the sectors in the wake of COVID-19 pandemic.

Communication of Monetary Policy

17. Communication in the CBK has evolved over time, having benefitted from support from other central banks, particularly the Swedish Central Bank (Riksbank).[18] A comprehensive monetary policy communications strategy has been developed with the objective of communicating CBK's policy objectives, rationale for policy decisions, forecasts of macroeconomic conditions and other policy variables, including inflation and output in a well-articulated and clear manner. A key tenet is to ensure that a diverse audience has access to the information they need from the CBK to enable them make more efficient decisions.[19]

Box 2: Recent reforms in CBK Communications

The CBK has implemented several reforms to modernise its communication strategy consistent with international best practices. Some of the most recent reforms include:

1. Consistent and predictable release of MPC press statements which reinforces the institution's reputation as dependable, open and transparent. This has also ensured that the market-sensitive information reaches all stakeholders in a timely manner.
2. Live streaming of post-MPC press conferences for broader participation including international press.
3. Surveys conducted by the MPC to capture perceptions on key economic indicators and identification of risks, and the findings are published in the CBK website.
4. Diversification of channels of communication and messaging to reach the wider public including social media.
5. Institutionalised cycle of communication events following MPC meetings including systematic engagement with diverse stakeholders on the rationale for MPC decisions for enhanced accountability and transparency.
6. Revamped internal and public websites for improved and rich repository of information for various stakeholders to enhance internal and external communication.
7. Regular briefings to Parliament and senior Government officials to increase their knowledge, build and maintain positive relations and trust.
8. Increased communication with the public on key policy concerns through periodic Op-Eds and Governor's Interviews.
9. Timely dissemination of data through bulletins and reports.
10. Increased engagement with the media to build the knowledge base of journalists who report on central bank issues.

[18] See details on the Journey in Communication: The case of RiksBank in Meyersson and Karlberg, (2012)
[19] This White Paper also benefited from insights from the bank of England, (Haldane, 2017)

18. The aim of CBK communication is to build confidence and credibility. Being open and transparent is not the same as being clear and predictable. CBK has endeavored to provide consistent information over time to build credibility. Timely communication with market players and the public has increased knowledge about the CBK on the role it plays in the economy. This has helped create a greater appreciation of the CBK as a credible institution, boosted acceptance of its actions and anchored the expectations of economic agents. In essence, when markets anticipate policy actions, and act in advance of them, monetary policy becomes more efficient thereby enhancing credibility.

19. Channels of communication have been diversified. Communication from the CBK is not just relevant for the financial sector and market participants. Information on macroeconomic indicators such as inflation and output are as important for market participants as they are for the general public. Information from the CBK is thus shared through multiple channels including communiqués, press conferences, briefs, Op-Eds and interviews. Reports, bulletins and other publications are posted on the CBK website and also on social media for easy access by the different audiences. The background information to MPC's decisions as well as the video footage of press conferences are also published on the website. This has minimised the distortion of news by media outlets.

20. Communication is tailored to cater for different stakeholder groups and occasions. Communication by CBK is deliberately targeted at a wide set of audiences, in recognition of the fact that monetary policy communication can only be effective if it reaches these audiences. CBK communication recognises that stakeholders are heterogeneous. The MPC communiqué contains detailed information that is useful to audiences as varied as the financial markets, the broader business community, the financial sector and the media. CBK also publishes the communiqué simultaneously on its website and social media, making the information instantly available to the general public. The MPC communiqué, released at a defined time after every meeting, is deliberately fashioned to capture the main issues considered by the MPC and offers a wide array of information relevant to the different stakeholders. Subsequent to the MPC meeting and the publication of the communiqué, a series of briefings help to further emphasise and explain the MPC decision. These start with a press briefing, which is enlivened with deep dives into the data considered by the MPC in its decision. The press briefing is livestreamed, and has attracted a growing audience of journalists, analysts and the general public. Further, there are briefings to Chief Executives of commercial banks and the private sector, who also have a chance to interact with the data and CBK. At the various briefing sessions, the MPC responds to questions sent in electronically by the different stakeholders. The data, in form of charts and reports of the MPC Surveys are also published on the CBK website and further posted on social media, making the material accessible to as broad an audience as possible. CBK also publishes, monthly updates on inflation, with detailed analysis of movements on various prices. Crucially, this information is presented in an easy to understand graphic form, breaking down the items that constitute inflation and are of use to the general public. This information has been well received and is widely shared on social media platforms such as Twitter and WhatsApp. Finally, the MPC also convenes periodic roundtable discussions with investors, economists and analysts from various institutions, to discuss topical issues, including, but not limited to monetary policy. The relevant Committees of Parliament and other high-ranking government officials are also briefed on a regular basis.

21. Communications tools have been augmented and refined to improve the information content available to the MPC. The structure of MPC survey questionnaires has been refined over time to make the questions more objective and understandable for respondents, all in a bid to enrich the set of information that the MPC requires for decision-making. The Chair of the MPC is regularly invited to deliver speeches, make presentations or participate in panel discussions of relevance to the MPC. Responses to key policy concerns including issues raised by the media are infused in the speeches, presentations, meetings and interviews to maintain consistency in key messages.

22. The external website which is an important channel for external parties to access information about CBK's activities was redesigned to facilitate greater access to information. CBK has improved its website to make it more interactive and easier to navigate, while enriching the information content. Reports on the state of the banking sector and the economy in general, weekly bulletins, speeches, statistics, survey results and other information are regularly updated on the website to provide quick access to stakeholders. Key reports available to the public include the annual and quarterly banking sector reports and financial sector stability reports. These reports have been simplified over time to contain summaries that every stakeholder can understand. Events that are livestreamed are also available on the website.

23. To fulfil its statutory obligations and accountability to the stakeholders, the CBK submits reports to Parliament as required by law. The MPC publishes two statutory bi-annual reports, which are submitted to a relevant Committee of Parliament through the Minister for Finance. A Monetary Policy Statement for the subsequent twelve months is prepared every six months (June and December), specifying the policy objectives and ways the MPC expects to achieve its policy targets, and the reasons for adopting such policies. The Statement also contains a review of the implementation of monetary policy stipulated in the preceding policy statement. All Monetary Policy Statements are published in the Kenya Gazette, as well as on the CBK website. Additionally, the MPC prepares a Monetary Policy Report every six months (April and October) with respect to its activities and developments in key economic indicators. The report is also published on the CBK website. CBK is also accountable regarding its operations and publishes an Annual Report within three months of the close of each financial year in June. The CBK Annual Report covers the Bank's operations throughout the year, including monetary policy formulation and implementation. It is also submitted to the Minister by end of September of each year and is published in the Kenya Gazette, and on the CBK website.

24. The communication strategy has resulted in increased understanding of CBK actions. The strategy has ensured coordination of market expectations, wider dissemination of monetary policy decisions and background data thereby increasing the efficiency of information transmission, and facilitating feedback from the market and stakeholders. The publication of reports and surveys related to MPC has generated increased interest and undertanding of the background to decisions made by the Committee. Increased open communication has enabled external stakeholders to evaluate and scrutinise CBK's activities, thereby creating legitimacy and increasing effectiveness of its communication.

Monetary Policy Implementation

25. To facilitate alignment of short-term rates with the CBR, reduce volatility in the interbank rate and improve monetary policy transmission, CBK implemented an interest rate corridor in 2012. An interest rate corridor is a framework for guiding short term interest rates towards the central bank policy rate (CBR). Previous experiences of countries that have adopted forward looking monetary policy frameworks use an interest rate corridor to align the policy rate to short-term rates in order to enhance monetary policy transmission. Analysis of short-interest rate trends in Kenya showed significant volatility prior to the adoption of the interest rate corridor. In particular, the monthly average interbank rates ranged between 1.1 percent and 28.9 percent in 2011.[20] The interest rate corridor was therefore intended to help ensure that money market interest rates move within a reasonably close range around the central bank's policy rate, thus moderating interbank rate volatility. In addition, the adoption of the corridor system was a precursor for transitioning to a forward-looking monetary policy framework. The initiative involved fine-tuning liquidity to confine the interbank rate within an interest rate corridor that was defined as (±) 2.5 per cent on the CBR.[21]

26. However, the interest rate corridor system was disrupted by the placement of three banks under receivership and damaged further by the introduction of interest rate caps in September 2016. The placement of three banks under receivership heightened interbank market segmentation, partly undermining the effectiveness of monetary policy. It also temporarily disrupted the proper functioning of the interbank market with implications for effective transmission of monetary policy signals through the interbank market.

27. Monetary policy implementation on a day-to-day is undertaken by the Monetary Policy Management Committee (MPMC) whose operations are guided by the monetary policy stance of the MPC.[22] The main functions of the MPMC include evaluating developments and trends in overall liquidity in the financial system, initiating the use of instruments under the control of CBK to meet the monetary policy objective and providing a forum for exchange of information and analysis on current developments in the financial market.

28. Strengthened market conduct through introduction of the Debt Market Forum (DMF) and the Bond Market Forum (BMF) to facilitate the development of a vibrant and deep Government bond market, and realisation of the domestic debt borrowing targets. The DMF is composed of the National Treasury, CBK, Capital Market Authority (CMA) and Nairobi Stock Exchange (NSE), while the BMF brings on board the market players such as banks and pension funds. These developments have fostered best practices in the government bond market, lengthened the average time to maturity of Government bonds and supported market development and stability. This process also promotes monetary and fiscal policy coordination that has significantly improved and minimised market distortions.

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[20] Average interbank interest rate is computed using a weighted average reflecting the rates and volumes at which all banks borrow from each other.

[21] No consensus exists in the literature regarding the optimal width of interest rate corridor; and existing literature shows that most countries operating interest rate corridor system set a band ranging from 50 basis points to 200 basis points and it varies as circumstances evolve. Setting the width is largely influenced by central bank preferences regarding interest rate volatility, degree of interbank market activity and reliance on central bank facilities verses interbank market for intermediation of short-term funds, (Maehle, 2020; Bindseil and Jablecki, 2011; Van't Dack, 1999).

[22] Further details on day to day implementation of monetary policy are presented in Appendix 2.

29. A stable and well-priced yield curve has been developed to support pricing and stability of the interest rates on government securities as well as broaden investor access and choices. The depth of the market has been enhanced by issuance of benchmark and Infrastructure Bonds, resulting in lengthening and stability of the yield curve. Participation by individual investors in the Government securities market has been enhanced through lower requirements on the minimum investment amount and the introduction of CBK-TMD. In particular, the investible amounts in Government Securities was lowered to Ksh 100,000 for Treasury Bills and Ksh 50,000 for Treasury Bonds from Ksh 1,000,000 for both instruments. The automation of bond trading in the secondary market has created efficiency resulting in increased liquidity and deeper markets.

Transformation of Kenya's Banking Sector

30. Working for and with Kenyans. CBK has in the past six years spearheaded reforms to Kenya's banking sector to ensure that it supports the aspiration of shared prosperity for all Kenyans. The relationship between the sector and Kenyans was for long, one of breached trust and lost confidence. The cost of banking services and products was considered unjustifiably high and opaque. Further, Kenyans viewed banks as focusing on short term profitability at their expense and being out of touch with their needs.

31. Drawing lessons from recent receiverships of banks. The gulf between the banks and the citizenry was widened by the receiverships of 2 medium sized banks and one small bank in 2015 and 2016. A confidence crisis shook the industry, particularly the medium and small banks, through deposit flight and reduced access to the interbank market for liquidity support. This turbulence was amplified by the enactment of interest rate caps on loans extended by banks in September 2016. Resolute action by CBK in resolving the receiverships and strengthening the banking sector ensured the necessary continuity and restoration of customer confidence.

32. Strengthening the banking sector through a New Normal. In the midst of the turbulence in 2015, CBK set a clear path forward to build the resilience of the sector. This entailed three anchors: First, strengthening of banks business models to ensure their resilience with adequate capital and liquidity buffers. This included through mergers and acquisitions by local and foreign banks. Second, enhancing the quality and effectiveness of governance frameworks. In accordance with international best practices, robust Board oversight is complemented by effective management implementation of the strategy with clearly demarcated roles. Third, the new normal focused on transparency particularly on the integrity and credibility of financial statements of banks to ensure they reflect a true and fair position.

33. Resetting the banking sector. With the effects of the receivership receding, 2019 was the moment for a step change for the banking sector. It was clearly evident that after three years, the interest rate caps were not achieving their intended objective of providing affordable credit particularly to Micro, Small and Medium Enterprises (MSMEs). However, there were still concerns and fears that banks would go back to their old exploitative ways, if the caps were repealed. Accordingly, CBK had been working with banks in ensuring that these concerns and fears were credibly addressed. This culminated in the issuance of the Kenya Banking Sector Charter (the Charter) in February 2019. The Charter is anchored on four pillars, customer centricity, risk-based credit pricing, transparency and ethical banking.

34. The customer is at the heart of banks. Customer needs must be the primary driver of banks strategies, products, services and operations. Without a customer centric approach, banks are not sustainable. Accordingly, banks have worked to ensure prompt resolution of customer complaints and a smooth customer experience of their products and services. Innovation has been a key enabler of customer centricity as confirmed by the CBK Banking Sector Innovation Survey 2020. According to the survey that assesses the adoption of financial technology (fintech) by Kenyan banks, most banks have noted a positive impact of the Charter on their business strategy focus on customer centric innovation.

35. Making borrowers credit history count. Pricing of loans by banks has been a source of concern for Kenyans for long. Interest rates have been perceived as usurious and arbitrarily determined. Credit information sharing through Credit Reference Bureaus (CRBs) introduced in 2010, was viewed more as a blacklisting mechanism and not as an input to loan pricing by considering a borrower's credit history.

36. In an effort to address the perceived arbitrariness of credit pricing, the Kenya Banks' Reference Rate (KBRR) was introduced in July 2014, to facilitate a transparent credit pricing framework. The KBRR framework was also intended to provide a common base lending rate for banks, and to enhance the transmission of monetary policy signals through banks' lending rates. The KBRR comprised of a base rate computed using the CBR and treasury bills rate and a risk premium, "K''. Despite the introduction of the KBRR, the cost of credit remained high, while transmission of monetary policy signals to lending rates continued to be weak. The key challenges faced with KBRR included:

- Lack of empirical/scientific pricing models on the part of most commercial banks and microfinance banks.
- Delayed transmission of changes in the components (CBR and T-Bill Rates) of KBRR.
- Circularity between KBRR and T-bill rates which could destabilise interest rates.

Accordingly, in light of the challenges and following the introduction of interest rate caps in 2016, KBRR was shelved in January 2017.

37. Under the Charter, all banks have developed Risk Based Credit Pricing Models (RBCP) that they have engaged CBK on. The RBCP models are underpinned by the following principles: -

i) **Pricing should be empirical and evidence/data based –**Pricing should be based on verifiable patterns and behavior of customers, for instance, customers with stable incomes should be priced differently from customers with irregular incomes.
ii) **Components of pricing clearly identified –** The model should distinctly outline each element incorporated in the model including, base rate, risk premium and other charges.
iii) **Costs clearly identified and justified –** Costs incorporated in the model should be directly related to lending and any other costs should be adequately supported and justified.
iv) **Risk profile of customer–** The model should evaluate each individual customer's behavior and unique characteristics enabling lenders to apply differential interest rates based on customer's creditworthiness.

v) **Credit Reference Bureau (CRB) information –** The model should incorporate CRB scores as part of risk profiling of customers.

vi) **All-inclusive pricing –** Interest charged to customers should be inclusive of all other charges except third party costs.

vii) **Full disclosure of the Annual Percentage Rate (APR) to be charged to borrowers –** The model should clearly state the interest rate for a whole year, rather than just a monthly rate, as applied on a loan.

38. Full disclosure to customers. Under the Charter, banks are required to be fully transparent to their customer on the interest rate, fees and charges for the various products and services. In this regard, CBK and the Kenya Bankers Association (KBA) launched a Cost of Credit Website which provides information on fees and charges on loan products offered by commercial banks. Initially, the website covers personal loans and mortgages. In the next phase, fees and charges for other types of loans and other products offered by banks will be incorporated in the website.

Box 3: Kenya Banking Sector Charter

1. The Kenya Banking Sector Charter was issued by the CBK in February 2019.
2. **Objective:** To entrench a responsible and disciplined banking sector that works for and with the Kenyans.
3. **Pillars**: KBSC is based on four pillars:
   - **Customer centricity** – Customers' needs are at the heart of banks products, services and practices.
   - **Risk based credit pricing** – Loan pricing should take into account the risk profile of borrowers.
   - **Transparency** – Complete disclosure of all costs associated with banking products and services.
   - **Ethical banking** – Integrating environmental, social and governance considerations in banks' strategies.
4. **Implementation Progress:**
   - All banks submitted to CBK their board approved time-bound implementation plans of the Charter.
   - Banks report to CBK on a quarterly basis the progress of implementation of their plans.

39. Doing the right thing. Banks draw their existence and indeed sustainability from the communities they operate in. Environmental, Social and Governance (ESG) considerations must therefore be integrated in the operations of banks. Decisions by banks must balance long term societal good with short term profit motives. Through the Charter, banks have drawn up and are implementing ESG plans. Already Kenyan banks are blazing the trail regionally in adopting their financing to support adaptation and mitigation of climate change. Kenya's largest bank in November 2020 was the first bank in the Eastern Africa Region to qualify to access the Green Climate Fund, a global climate finance fund set up under the United Nations Framework Convention on Climate Change (UNFCCC).

40. Supporting the economy and borrowers through the coronavirus (COVID-19) pandemic. As COVID-19 unraveled in China in early 2020 and ferociously spread in Europe and America, the Kenyan banking sector had strengthened considerably on the backdrop of the transformation journey. When the pandemic landed in Kenya in March 2020, the sector had strong capital and liquidity buffers. Accordingly, the sector was among the first responders in providing relief to customers to ride through the pandemic as customer centricity was called to test. Banks discussed with their customers, restructuring plans for their loan facilities that were previously performing, but were adversely impacted by the pandemic. After one year in March 2021, banks had provided relief through restructuring of loans amounting to 57 percent of all loans. Further, CBK availed additional liquidity of Ksh.35 billion to banks through lowering the Cash Reserve Ratio to support restructuring of loans of distressed borrowers due to the pandemic. Over 90 percent of the additional liquidity was utilised to support borrowers particularly in the tourism, trade and transport and communication sectors that have borne the brunt of the pandemic.

Box 4: Bank Loan Restructuring to Mitigate Impact of COVID-19 Pandemic

1. To mitigate the adverse effects of coronavirus pandemic on borrowers, the Central Bank of Kenya, following consultations with banks, announced commercial banks' loan restructuring emergency measures on March 18, 2020. The measures were intended to provide:
   - Borrowers with space to reorganise their finances and review their business models.
   - Banks with space to build capital and liquidity buffers.
   - Banks with the ability to enhance their credit risk management from the detailed appraisal and monitoring.
2. The specific loan restructuring emergency measures were:
   - Banks were to provide relief to borrowers on their personal loans, whose loan repayments were up to date as at March 2, 2020, based on their individual circumstances arising from the pandemic.
   - To provide relief on personal loans, banks were to review requests from borrowers for extension of their loan for a period of up to one year.
   - Small and Medium-sized enterprises (SMEs) and corporate borrowers could contact their banks for assessment and restructuring of their loans based on their respective circumstances arising from the pandemic.
   - Banks were to meet all the costs related to the extension and restructuring of loans.
3. On March 24, 2020, CBK announced that it would provide flexibility to banks with regard to requirements for loan classification and provisioning for loans that were performing on March 2, 2020 and whose repayment period was extended or were restructured due to the pandemic.
4. The loan restructuring emergency measures expired in March 2021.

41. The banking sector is no longer the preserve of a few. The green shoots of the ongoing transformation of Kenya's banking sector are already evident. The sector's assets have increased from Ksh.3.6 trillion in 2015 to Ksh.5.5 trillion in December 2020, a 53 percent increase. Customer deposits have increased by 42 percent from Ksh.2.6 trillion in 2015 to Ksh.3.7 trillion in December 2020. The sector's loan book expanded by 22 percent from

Ksh.2.3 trillion in 2015 to Ksh.2.8 trillion in December 2020. The number of loan accounts have increased by 34 percent from 8.5 million in 2015 to 11.4 million in December 2020. Deposit accounts have increased from 34.7 million in 2015 to 69.9 million in 2020, a 101 percent increase.

42. Much more remains to be done. As the world builds back from the COVID-19 pandemic, the banking sector will be at the heart of the restoration of lives and livelihoods. It must therefore focus on the unserved and underserved segments of the population particularly women, youth and MSMEs that have been disproportionately impacted by the pandemic. CBK will therefore continue to walk with the sector on the transformation journey. The focus will be on maximising the opportunities that are presented by innovation in technology and minimising the attendant risks particularly cybersecurity and Anti- Money Laundering and Combating Financing of Terrorism. We will embrace agility in our regulatory approach as the pace of technological change hastens and changes the banking landscape. We will leverage on technology to adopt real time supervision of banks. As new players emerge riding on technology, we will review the regulatory perimeters without stifling innovation. Underpinning our transformation journey, will be co-operation and co-ordination at national, regional and global levels, as the world is transformed into one marketplace by digitalisation.

43. The banking sector working for and with Kenyans. The transformation of Kenya's banking sector is ultimately a marathon and not a sprint. On this marathon, we envisage a banking sector that includes a majority of the Kenyan populace. It will offer products and services that are tailored to different market niches and meeting their specific needs. Above all, it will be a worthy corporate citizen that supports long term societal sustainability, working for and with Kenyans.

2.3 Current Monetary Policy Framework

44. The current monetary policy framework in Kenya has elements of a forward-looking approach. Price stability is the primary objective of monetary policy, and the Minister for Finance provides the inflation target at the beginning of every financial year in accordance with the CBK Act. This target guides the CBK's monetary policy decisions and actions. The CBK is accountable to the Government and the general public on the attainment of the inflation target. In case the inflation target is missed, CBK is required to explain reasons for the breach and remedial measures to return inflation to the target range. The key forecasting tool in the forward-looking monetary policy approach is the FPAS.

45. The Central Bank Rate (CBR) is formulated using a Taylor rule that is inbuilt in the FPAS framework (Appendix 4). CBK relies on a wide range of information sources when making monetary policy decisions, including detailed analyses of domestic and global macroeconomic conditions and forecasts. In particular, a forward-looking Taylor rule is used in the determination of the CBR which signals the monetary policy stance. In this rule, the MPC raises (reduces) the CBR if the expected inflation rate is above (below) the inflation target, and the economy's actual output is above(below) its potential. The inclusion of the inflation and output gap in the rule reflects the fact that CBK aims to maintain a low and stable inflation rate, as well as to promote sustainable real GDP growth. CBK considers expected (or forecasts of) inflation in the determination of the CBR, which reflects the fact that monetary policy affects output and inflation with a lag. CBK considers a wider range of information than the measures of inflation and the output gap (difference between actual output and its potential) indicated in the standard Taylor rule in Taylor (1993). For instance, apart from forecasts of inflation and output, input from private sector expectation surveys of inflation and economic activity is considered. In addition to the inflation and output gaps, CBK's formulation also incorporates a lagged interest such as in Clarida, et al., (1998), but does not incorporate an exchange rate term such as in Ball, (1999) and Svensson, (2000) as monetary policy is conducted in the context of a floating exchange rate regime. Although Taylor type rules are easy to understand since they involve only a small number of variables, they require determination of equilibrium real interest rates and potential output, both of which are non-observable. Additionally, several studies such as Ophanides (2001) and Kozicki (1999) show that implementation of the Taylor rule requires timely and accurate information with regard to nominal output, real output as well as the path of potential output. Policy recommendations from the rule based on real time data can therefore, differ significantly from those based on any data revisions and conceptual changes in the measurement of the output gap.

46. The FPAS model used by CBK in macroeconomic forecasting is consistent with international best practices. The forecasts constitute (i) assessment of the economic outlook (ii) policy path that is consistent with the inflation objective, and (iii) evaluation of risks and development of alternative policy scenarios.

47. MPC considers a wide range of information in monetary policy decision making. The information base for MPC decision making includes analysis of the global and domestic economy, in particular inflation, economic growth, external sector, monetary aggregates, financial and fiscal sectors. The analysis is complemented by surveys conducted by MPC, notably a CEOs Survey, Market Perceptions Survey and other ad-hoc surveys targeting specific sectors such as the hotels and flowers, ahead of each MPC meeting. The Surveys are used to gauge expectations of private sector companies (banks and non-banks) on selected indicators such as inflation, exchange rates, economic activity, private sector credit growth, employment, and the economic outlook. The Surveys also allow the MPC to monitor recovery of key sectors of the economy from domestic and global shocks such as COVID-19 pandemic. Reports of these Surveys are published on the CBK website for wider readership.

48. The CBR is used to signal the monetary policy stance and is the reference rate for all monetary policy operations. The CBR is reviewed and announced by the MPC at least every two months and movements in the CBR are transmitted to changes in short-term interest rates. A reduction of the CBR signals an easing of monetary policy and a desire for market interest rates to move downwards. Lower interest rates encourage economic activity and thus growth. Bank reserves and overnight interbank rates are part of the operational indicators in liquidity management, while the deviations of inflations from target as well as the growth of broad monetary supply and credit to private sector are part of the indicative parameters.

49. The MPC monetary policy decisions are communicated to the public through various channels. Cognisant of the difficulty of explaining monetary policy decisions to diverse population, the MPC decision is communicated through press releases, media briefings and publication of MPC reports on the CBK website and on social media. The intention is to provide enough variety of information that different readers will find useful at their level of understanding and convenience. The MPC press releases have been simplified over the years and enhanced the information content. The press release covers current inflation trends and outlook with regard to the target, growth trends and outlook and provides reasons why the MPC changed or did not change its policy rate. The increasing use of diverse communication channels has facilitated a wider dissemination of monetary policy decisions and background data thereby increasing the efficiency of information transmission.

50. MPC briefing sessions with various stakeholders. As part of the communication strategy of expanding outreach and enhancing the efficiency of information transmission necessary to anchor inflation expectations, the MPC also holds regular briefing sessions with various stakeholders where the Chair of the MPC explains not only the decision but also high frequency and granular data that is not released regularly. The MPC press release is published on the same day of the meeting. Subsequently, a press conference is held by the Chair of the MPC during which the background to the MPC decision is explained, including developments in the economy and challenges, and media queries addressed. Similar briefings are held for CEOs of banks and other stakeholders including members of the business community since January 2021.

51. The monetary policy decision is implemented by the MPMC mainly through open market operations. The information base guiding MPMC decisions includes liquidity forecasts, reports on development and expectations in domestic interbank and foreign exchange markets and market intelligence/interactions with commercial banks dealers. The decisions of the Committee may be either to stay out of the market or participate by injecting or withdrawing liquidity. Whenever the CBK is injecting liquidity through a Reverse Repo, the CBR is the lowest acceptable rate. Likewise, whenever the Bank wishes to withdraw liquidity through a Repo, the CBR is the highest rate that the CBK will pay on any bid received.

3. SELECTED COUNTRY EXPERIENCES AND LESSONS

52. **Most of the countries reviewed adopted an inflation targeting framework mainly due to developments in the financial sector, which led to instability of the money demand function rendering monetary targeting framework untenable as well as the need to better anchor inflation expectations.**[23] Other reasons for adopting inflation targeting frameworks by some countries, included building monetary policy credibility, introducing flexibility in monetary policy formulation and easing of communication with the public.[24] Kenya has faced similar challenges, which necessitated introduction of reforms towards adopting a forward-looking monetary policy framework.

3.1 Country Experiences from Advanced and Emerging Markets

53. **All countries reviewed in advanced and emerging markets except Sweden target headline inflation under the inflation targeting regime.**[25] Headline inflation is targeted by these countries because it is widely known and commonly understood by the public. It is also easier to communicate and measure compared to underlying/core inflation whose accurate measurement is limited.[26] Moreover, experience shows that usage of headline inflation enhances transparency. In addition, all countries apart from Georgia target a range instead of a point target. Most of the countries had a history of high levels of inflation before adoption of inflation targeting framework and their experience shows that the framework was effective in bringing down inflation and maintaining it within target. However, the countries have experienced challenges during the inflation targeting regime, mainly supply-side constraints and exogenous shocks and most of the countries have adopted discretionary approaches including unconventional monetary policy in responding to such shocks.[27] Kenya has also experienced some of these challenges, particularly supply side shocks.

54. **Reviewed countries have adopted diverse forecasting frameworks that are consistent with inflation targeting approach.** In the advanced countries, the central banks have adopted structural models, particularly the dynamic stochastic general equilibrium (DSGE) models. In addition to DSGE model, these countries use other models to supplement information for policy purposes as follows: Brazil (Vector Autoregressive and small and medium-sized models); Indonesia (Short-Term Forecast Model for Indonesia Economy (SOFIE)); Sweden (Dynamic Projection Model); New Zealand (Calibrated gap-form models); and Georgia (The Georgia Economy Model). The DSGE models are preferred due to their strong theoretical micro-foundations. The FPAS framework used by Kenya is a gap model similar to New Zealand.

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[23] Summary table on country experiences is in Appendix 1.

[24] In an inflation targeting regime, the central bank has a numerical target, which can be a given number or a range and a period of time to correct deviation, called the policy horizon, which could be a certain number of years, usually two, or more ambiguous, such as 'the long-term'. The target can be chosen by the central bank, in which case it has goal independence, or may be decided by the government, in which case the central bank has only instrument independence, (De Gregorio, 2019).

[25] Since 2017, Sweden headline inflation target excludes the effects of changes to mortgage interest rates.

[26] It should also be noted that core inflation, that is in principle computed by excluding certain types of prices from the headline measure, may not have uniform interpretation since it is not homogenously measured. The measurement depends on the exclusion criteria in different countries, (Anand et al., 2015; Kasim, 2010; Reichold, et al., 2008; Berg and Grottheim, 1997).

[27] Details of the experiences of the five (Georgia, Brazil, Indonesia, Sweden and New Zealand) reviewed countries are available in Appendix 1. The selection of these countries was guided by a track record of having brought down inflation, and anchoring it after adoption of inflation targeting framework.

55. An effective communication strategy is critical in building credibility and anchoring inflation expectations. The reviewed countries have strong communication strategies which they adhere to through publication of MPC decisions, inflation forecasts and reports besides observing strict accountability frameworks. They also communicate to the public that obtaining the inflation target takes precedence over all other objectives. In Brazil and Sweden for example, besides publication of the MPC decision, and explaining the factors behind the decision, information on all MPC members' votes is also revealed.[28] A key insight from Sweden is the use of different methods to measure the effectiveness of its communication and confidence. The Swedish Central Bank (Riksbank) carries out target group analysis every two years to find out what people think about their Central Bank in general and communication in particular. The outcome of this analysis facilitates the identification of areas of improvement for external communication and recommendations to be implemented.[29] Kenya has already implemented key components of an effective monetary policy communication strategy similar to the reviewed countries.[30]

3.2 Experience of Inflation Targeting Countries in Africa

56. Reviewed countries in Africa adopted a gradual approach in modernisation of monetary policy frameworks.[31] Most countries in Africa that have modernised monetary policy frameworks initially adopted elements of inflation targeting while retaining a policy role for monetary targets. Uganda and Mauritius currently practice inflation targeting lite, while South Africa and Ghana have fully adopted inflation targeting. Insights from this analysis indicate that transition to a forward-looking monetary policy framework is a gradual process requiring both short-and long-term reforms in the financial system. Kenya adopted a similar gradual process and is at an advanced stage of implementing the necessary reforms for further strengthening a forward-looking monetary policy framework.

57. Most countries reviewed in Africa target headline inflation. South Africa, Mauritius and Ghana use Consumer Price Index (CPI) headline inflation as the target measure but only South Africa and Ghana allow target bands ranging between one to three percent. Target bands widely used in inflation targeting countries including emerging and advanced economies, allow for flexibility in case of supply side and exogenous shocks. Uganda targets core inflation to isolate the effects of seasonal supply-side factors and uses a point target currently set at 5 percent. The key insights from this analysis is that, whereas most countries have adopted headline inflation as the target measure because it is easy to understand and explain to the public, some few countries have adopted various measures of core inflation. Thus, understanding the definition of various types of measures of inflation and identification of the measure is critical for countries considering adoption of inflation targeting.

58. Most inflation-targeting central banks use a suite of models approach as the basis for their monetary policy decisions and for forecasting purpose. While some models have theoretical foundations, others are more data driven. Uganda, Mauritius, Ghana and South Africa adopted the FPAS as the main forecasting framework supplemented by other models. In Kenya, the FPAS is also supplemented by satellite models.

[28] The main reasons behind publishing voting records include strengthening accountability of decision-makers and supporting markets' understanding of the decision-making process.
[29] Meyersson and Karlberg, (2012)
[30] Refer to Box 2 on key elements of monetary policy communication in Kenya
[31] A detailed account on country experiences is presented in Appendix 1. These are the countries in Africa (South Africa, Mauritius, Ghana and Uganda) with the longest experience (over 10 years) of inflation targeting.

59. To facilitate alignment of short-term rates with the policy rate and improve transmission, countries implement a band of the interbank rate around the policy rate. Uganda implemented a +/-300 basis points corridor, South Africa +/- 100 basis points, Mauritius +/- 125 basis points and Ghana +200/ -100 basis points, which is an asymmetric corridor that allow interest rates to remain higher than the policy rate on the upper bound compared to the lower bound. A wider interest rate corridor in the initial period allows for flexibility to unpredictable changes in market liquidity conditions. However, with improved liquidity forecasts and management and functioning of the interbank market, the corridor can be narrowed to further enhance the transmission from the policy rate to short term rates.

60. All countries reviewed except Uganda use the overnight interbank rate as the operating target.[32] Uganda uses the 7-day tenor interbank rate as its operating target, while South Africa, Ghana and Mauritius use the overnight interbank rate. The choice of the operating target depends on the level of segmentation in the market and volatility of the rate. Usually the overnight interbank rates are more volatile than rates with longer tenor. Uganda uses the 7-day tenor interbank rate due to high volatility in the overnight rate that the authorities associate with high levels of segmentation in the market. It should however be noted that most countries that have adopted a forward-looking framework use the overnight interbank rate as the operating target since most transactions are overnight.

3.3 Limitations of Forward-Looking Monetary Policy Framework

61. Supply-side shocks. Monetary policy may not address supply-side shocks (weather, oil price) induced inflation. This could undermine the ability of monetary policy to anchor inflation expectations, especially for countries with significant weight of food and oil in the CPI basket and where such shocks are persistent, (Heintz and Ndikumana, 2010). This has been experienced in Ghana, Georgia, Brazil and Indonesia. Some countries have institutionalised buffer systems on food and oil to mitigate the adverse effects of supply shocks.

62. External shocks. Most reviewed countries have experienced external shocks such as terms of trade, in particular volatility in oil prices, global financial crisis and more recently the global COVID-19 pandemic with implications on the output gap and inflation **(Appendix 1).** Global economic uncertainty increases the forecast error for the associated risks and may reduce the precision of forecasts of key economic variables thereby undermining the efficacy of a forward-looking monetary policy framework. Foreign exchange reserves have been used across countries to provide a buffer against short term external shocks.

63. Conflicting policy objectives. There may be potential policy conflicts between the price stability goal and other goals related to output gap, exchange rate, credit growth, and financial stability. The priority of inflation objective over other policy objectives and a forward-looking operating procedure using inflation forecasts may be difficult to satisfy particularly in the context where exchange rate stability is an objective of the central bank, (Debelle et al., 1998). In the absence of an appropriate legal framework and structures for

[32] There are several ways of calculating the interbank rate from the available data. For instance, the interbank rate can be computed based on weighted averages or trimmed means. The weighted interbank is calculated as the weighted average of the interest rate at which overnight unsecured funds are transacted by all banks in the domestic interbank market. The trimmed mean excludes some categories of banks who are outliers either based on interest rates charged or volumes transacted.

monetary and fiscal coordination, fiscal dominance can also be a constraint. However, the objectives of the CBK are clearly stated in the CBK Act and the Constitution.

64. Reviewed African countries under inflation targeting framework have experienced similar challenges to those highlighted above. The review showed that countries in Africa that have adopted inflation targeting have experienced significant deviation of inflation from target that emanated from various sources, including external shocks (South Africa), fiscal dominance and supply-side constraints on food prices (Ghana), structural liquidity challenges (Mauritius and Uganda), and volatility of the exchange rate (Uganda).[33]

3.4 Lessons from IMF Technical Assistance

65. Following a request from the CBK, the IMF provided Technical Assistance (TA) on monetary policy design and implementation in February 2020. The TA reviewed the current monetary policy framework alongside the elements of alternative frameworks that could be adopted in Kenya. The exercise focused on three areas: monetary policy decision process, implementation, and transmission. The recommendations from the IMF are summarised below in paragraphs 66-72, and also detailed in **Appendix 5** together with a CBK assessment of each recommendation.

Monetary Policy Decision-Making Process

66. The CBK has a clear price stability mandate, a strong commitment to an announced inflation target and policy independence as well as good forecasting tools and capacity. The assessment showed that CBK practices a flexible inflation targeting framework and monetary policy reacts to both inflation and output developments. The CBK has a functioning macroeconomic forecasting model and good technical capacity for forecasting and that the model has performed well in forecasting inflation so far. Further, the CBK is committed to a flexible exchange rate regime.

67. CBK has institutionalised a Forecasting and Policy Analysis System (the FPAS) consistent with international best practices. The CBK uses a quarterly projection model within its FPAS framework. These models are forward looking but also take account of past developments. CBK has enriched information content for monetary policy decision by incorporating useful adjustments to the initial FPAS framework. The CBK forecast quality on inflation is relatively accurate and unbiased. However, the framework could be improved by strengthening macroeconomic forecasts. In particular, the model could incorporate more information on monetary aggregates and use different techniques to estimate unobservable variables (e.g., potential output and the neutral interest rate). Additionally, the MPC decision-making process could be strengthened by having the MPC pursue a baseline interest rate path to converge to the inflation target based on the results of the forecasts and the policy rule within a two-year horizon to improve decision-making. In addition, CBK complements the FPAS framework with bi-monthly MPC market perceptions surveys. The surveys are flexible instruments used to obtain expectations of private sector companies on selected indicators such as inflation, private sector credit, economic activity and outlook. Nonetheless, the CBK's market perception survey could go beyond the one-year time horizon by seeking information

[33] Refer to Figure 4 in Appendix 3.

on inflation and real GDP growth expectations at the two- and five-year mark, while also surveying policy rate expectations.

68. Communication on monetary policy is largely consistent with international best practices. Most of the modern communication strategies are already in place in the CBK. The CBK publishes a communiqué shortly after its interest rate decision. The day following the MPC decision, the Governor of the CBK holds a press conference during which the MPC decision is explained and questions from the press answered. Most of the available communication tools, including social media are already in use by the CBK. However, there is scope to strengthen CBK's education role through joint research and conferences. To further strengthen the communication strategy, the press release could outline policy objectives and strategy as well as publicise inflation trends and future risks and growth trends and risk factors that might alter it. Additionally, CBK could consider publishing a quarterly inflation report so as to enhance its profile and to educate the public.

Monetary Policy Transmission

69. The traditional monetary policy transmission channels work but could be strengthened by aligning short term market rates to the policy rate. This will enhance policy rate transmission and reduce risk premia. Based on an IMF survey conducted on banks during the mission, the IMF concluded that banks seldom use the policy rate as the reference rate to price interbank transactions or loans. However, the reforms implemented by CBK such as the Banking Sector Charter that was introduced in February, 2019 and establishment of the cost of credit website will minimise the disparities between the policy rate and the other rates. The MPMC, which is tasked with implementation, should be accountable to the MPC for the fulfillment of this objective.

70. Increased monetary policy credibility in Kenya. The analysis showed a declining exchange rate pass through, international food price pass through, and inflation persistence, which points to an increase in monetary policy credibility in Kenya.

Monetary policy implementation

71. The interbank market, which plays an important role in the transmission mechanism, is functioning in Kenya. This notwithstanding, there are signs of segmentation due to credit risk perception, which would be mitigated by collateralising transactions. In this case tier 1 banks dominate the market and lend to each other at rates lower than the market. The short-term volatility in the interbank market is mainly driven by liquidity conditions. However, the functioning of the interbank market is expected to improve once the reform process of implementing the CSD is finalised. Developing the repo market would also help to grow the secondary market for government securities.

72. Transparency over banks' loan pricing policies could be enhanced. The pricing of variable rate loans by banks is not efficient. Banks could use publicly available, reliable, and robust reference interest rates as yardsticks for pricing such loans. The reset frequency should be set at the origination of the contract and not at the discretion of the bank. Loan rates should be based on the yardstick, with premiums varying according to clients' credit riskiness. Greater transparency will enhance confidence in the market and will safeguard banks' reputation.

4. IMPLEMENTATION OF THE FORWARD-LOOKING MONETARY POLICY FRAMEWORK

4.1 Current Status of Implementing the Monetary Policy Framework

73. Kenya is at an advanced stage of implementation of a forward-looking monetary policy framework (Table 1). All the prerequisites for a forward-looking framework are in place, and the CBK is addressing the remaining facets for full implementation of the framework. Some of the major achievements towards the modernisation of the monetary policy framework are highlighted in **Table 1** below and the details of the focus areas to further strengthen the monetary policy framework are provided in paragraphs 76-82.

Table 1: Status of Forward-Looking Monetary Policy Framework

	Pre-requisite	Status
1.	Central Bank Independence	Independence of CBK is anchored in the Constitution of Kenya 2010 and the CBK Act. The CBK Act provides instrument independence for the CBK.
2.	Price stability as over-riding objective of monetary policy	Price stability objective defined in the CBK Act as the primary objective.
3.	Public announcement of a numerical target for inflation	The National Treasury provides the CBK with a target at the start of each financial year. Accountability rules are also provided with the CBK Act requiring an explanation if the inflation target is missed for three consecutive months and remedial action.
4.	Flexible exchange rate regime	CBK pursue a flexible exchange rate regime, allowing the MPC to conduct an independent monetary policy. The exchange rate serves as a shock absorber against external shocks.
5.	Reliable macroeconomic/inflation forecasting framework	Output from existing analytical and forecasting tools is a key input in the MPC decision process. Quality of forecasts continue to improve with regular capacity building and retooling for the modelling team. In addition, forecasts are backed by MPC perception surveys, the CEOs survey and other sector specific surveys such as the hotel industry survey.
6.	Accountability and transparency	The MPC and CBK have improved the communication strategy with timely dissemination of information, clarity of all communications including press releases, and regular forums with stakeholders including press conferences.
7.	Absence of fiscal dominance	Government borrowing from CBK is set at a maximum of 5 percent of latest audited ordinary revenues. Borrowing from the CBK is only to meet mismatches between revenue and expenditures.
8.	Effective transmission mechanism for monetary policy signals	• The CBR is the base for all monetary policy operations which should ensure that short-term interest rates are coordinated by the policy rate. • The CBK has implemented measures to reduce the cost of doing business in the banking sector. • Regular communication has enhanced market understanding of MPC decisions. • However, interest rate caps that were in force from September 2016 to October 2019 impaired the pace of transition and interbank market segmentation is still of concern. • CBK continues to implement measures to enhance effectiveness of monetary policy transmission.
9.	Financial sector development	The CBK is facilitating growth of the banking sector through sound regulatory and supervisory framework, promoting financial innovations, diversification of products, prudent risk management and stable macroeconomic environment. Financial innovations leveraging on mobile phones have promoted financial access and savings.

74. Kenya has achieved significant milestones in modernising its monetary policy framework. The Constitution of Kenya 2010 and the CBK Act provide the required autonomy to the CBK, which operates under a flexible exchange regime with the primary objective of price stability. Kenya strengthened the institutional framework for monetary policy formulation through the creation of the MPC and has improved the operational framework through the adoption of the CBR as the signal of the monetary policy stance. CBK has strong forecasting tools and has institutionalised assessment of inflation expectations through diversified survey instruments. To improve transparency and promote ethical culture in the banking industry, the Kenya Banking Sector Charter was issued in 2019. Additionally, CBK is rolling out an upgraded CSD to improve monetary operations and the functioning of the interbank market. CBK's communication strategy has also been strengthened and is consistent with international best practices.

4.2 Strengthening Implementation of the Monetary Policy Framework

75. CBK has initiated a number of reforms to strengthen the monetary policy framework but some issues remain to be addressed to further improve its effectiveness. The issues relate to enhancing the information content for monetary policy decisions, strengthening monetary policy implementation and transmission, enhancing monetary policy communication strategy, and strengthening financial stability. These are outlined below in paragraphs 76-82.

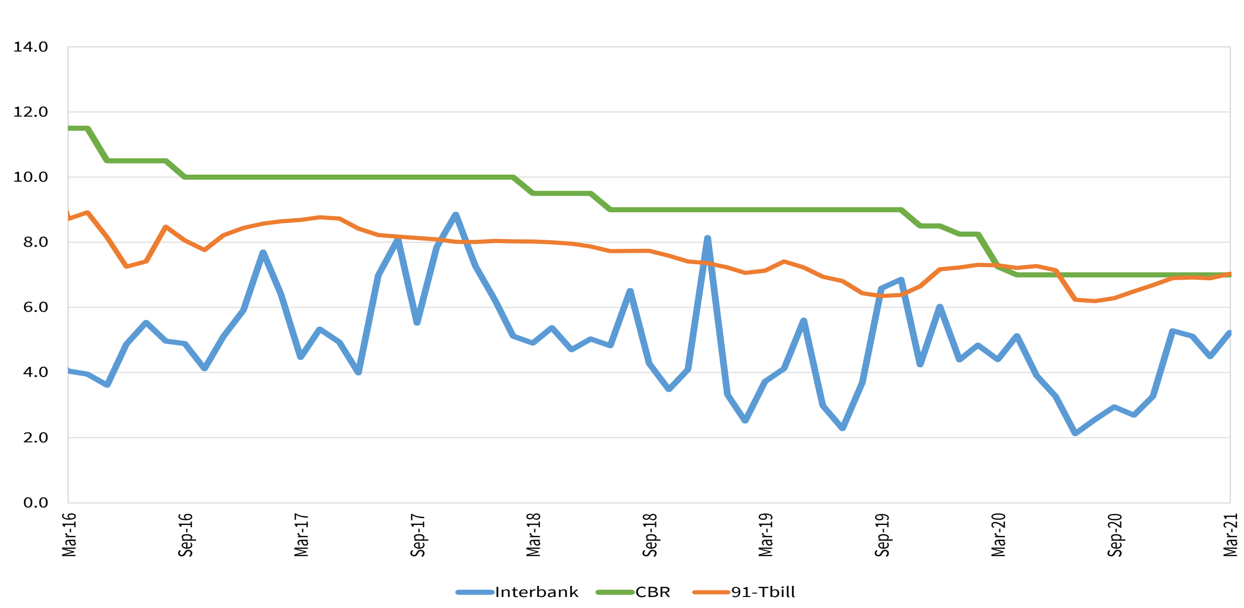
Monetary Policy Decisions

76. Refining forecasting and analytical tools in line with the changing structure of the economy. The CBK has an institutionalised and operational forecasting framework (FPAS), which is forward looking and consistent with international best practices. However, the structure of the Kenyan economy has continued to evolve particularly with widespread adoption of modern technology and increasing role of non-traditional sectors, such as services supporting the economy. In addition, the global economic landscape has continued to evolve with increased shocks and uncertainties with possible implications on price stability objective of the central bank. This requires continuous upscaling and refining forecasting frameworks to support monetary policy decision making process.

Monetary Policy Implementation

77. Improving the functioning of the interbank market. Following the repeal of the interest rates caps and resolution of banks under receivership, the functioning of the interbank market has continued to improve. The CBR has largely influenced the movements of short-term rates **(Figure 2).** However, there is need to continue improving alignment of short-term rates to the policy rate in order to reduce volatility and enhance monetary policy transmission.

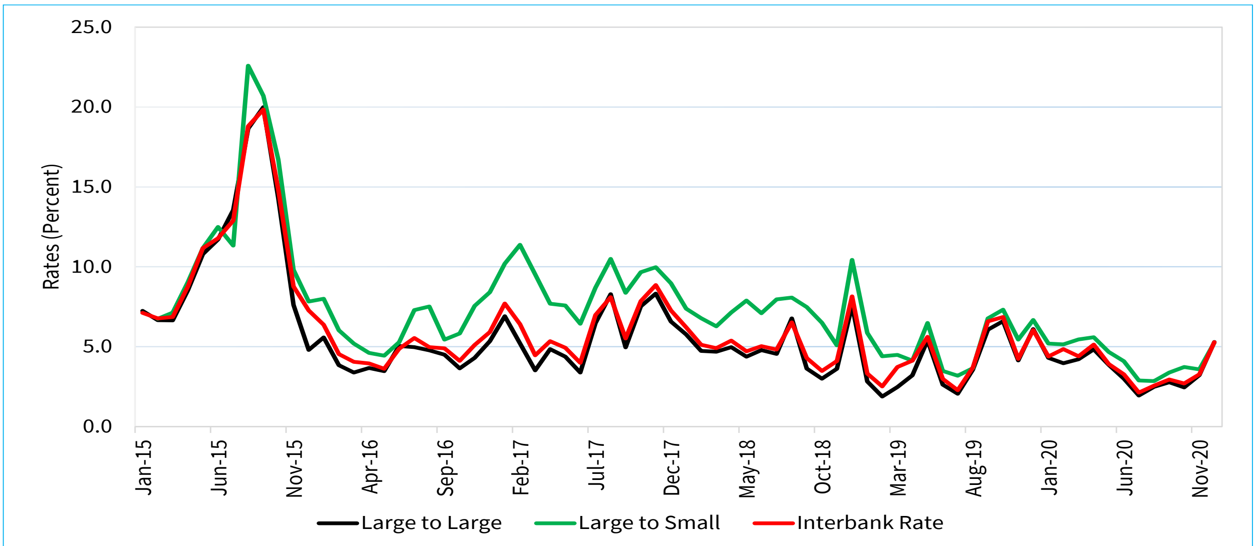
Figure 2: Short-term Interest rate



Source: Central Bank of Kenya

78. Narrowing the interest rate spreads in the interbank market. Small banks continue to face relatively higher borrowing rates attributed to asymmetric information on counterparty credit risk **(Figure 3).** Due to the uncollateralised nature of lending in the overnight interbank market, banks transact bilaterally on the basis of established credit lines. The horizontal repo market – based on pledged securities – has partly helped in mitigating credit risk. The ongoing roll out of an upgraded CSD which facilitates transfer of collateral ownership will improve CBK monetary operations.

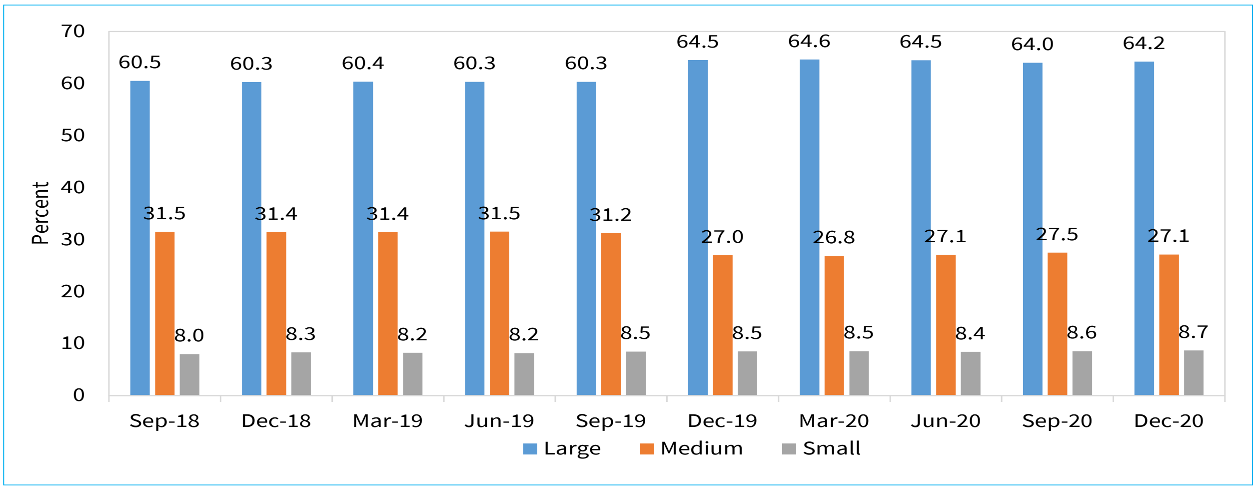
Figure 3: Interbank rates by bank size



Source: Central Bank of Kenya

79. Skewed liquidity distribution and volatility in the interbank market. Liquidity is largely concentrated in large banks, which may hinder price discovery and impede the efficiency and information content of the weighted average interbank market rate **(Figure 4).** This partly explains the volatility in the interbank rate.

Figure 4: Liquidity holdings by banks size (percent)



Source: Central Bank of Kenya

Monetary Policy Transmission Mechanism

80. Continue to enhance transparency in pricing of credit by banks. Under the Banking Service Charter, banks have developed Risk Based Credit Pricing Models and are required to be fully transparent to their customer on the interest rate, fees and charges for the various products and services. There is a need for CBK to continue working closely with banks in the implementation of the Charter and the risk-based credit pricing for enhanced transparency.

Monetary Policy Communication

81. Need to strengthen CBK's education role. While the general Kenyan population literacy stands at about 82 percent of adults, the levels of the requisite numeracy and ability to comprehend and analyse economic data is much lower.[34] This is a problem that is not unique to Kenya. Studies conducted by the Bank of England for example suggest that understanding central bank communication and accessing bank documents, even in advanced economies, is low at approximately 2 percent of the adult population.[35] It is therefore important to continuously update and broaden the focus of the communication strategy to strengthen CBK's education role.

82. Enhance public sensitisation on monetary policy and expand the set of stakeholders. Communication plays an integral role under the forward-looking monetary policy framework. Thus, in order to enhance the effectiveness of monetary policy, it is critical to broaden engagement with a wider set of stakeholders, especially the business community. It is also important to ensure that monetary policy remains predictable.The objective is to communicate in a way that is understood by different groups in society to achieve improved understanding of monetary policy and support better anchoring of expectations.

[34] World Bank Indicators, (2020)

[35] More details on how central banks engage and with whom to engage are provided in the Speech delivered by Haldane, (2017), Bank of England and in Haldane and McMahon, (2018).

5. SPECIFIC MEASURES TO STRENGTHEN THE MONETARY POLICY FRAMEWORK

83. CBK has made notable progress in implementing the requisite elements of a forward-looking monetary policy framework. CBK therefore aims to fully transition to a forward-looking monetary policy framework. In this framework, price stability will remain the overriding objective of monetary policy. Monetary policy will continue to be implemented in the context of a flexible exchange rate. The policy rate will remain the CBR that will signal the monetary policy stance. The operating target will be a short-term interest rate while the intermediate target will continue to be inflation forecast. CBK will continue to enhance the functioning of the interbank market to ensure effective transmission of monetary policy signal. Additionally, the CBK communication strategy will continue to anchor expectations of economic agents around monetary policy direction and actions and enhance transparency and accountability.

84. This framework will better anchor inflation expectations since it easily facilitates more effective communication and understanding by economic agents. A forward-looking monetary policy that uses interest rates to guide market expectations is appropriate for CBK since the price of money, which is interest rate, and goods and services as measured by inflation are more easily understood by the general public and market players. Moreover, this approach enhances transparency, improves policy credibility and strengthens accountability of the CBK. Additionally, the approach reduces uncertainty about future price level and inflation by providing interest rate policy path that is consistent with the inflation objective ahead of time. This facilitates timely policy remedial action in case of anticipated inflationary pressures.

85. This section provides an action plan in addressing remaining issues to fully transition to a forward-looking monetary policy framework. The required reforms include those affecting the monetary policy decision-making process, monetary and financial markets operations and the Bank's communication strategy.

Monetary Policy Decision making process

86. Diversify and refine the macroeconomic forecasting and monetary policy analytical tools. The CBK has a core macroeconomic forecasting model that is consistent with international best practices. However, as noted in Njoroge and Murinde, (2021), each macroeconomic modelling approach has major advantages and limitations, thus it is worthwhile to invest in a suite of best models available to date. CBK will therefore continue to extend the current universe of satellite models in order to increase the information content of inflation forecasts and to support in-depth policy discussion. This includes development and implementation of a dynamic stochastic general equilibrium (DSGE), and a review and strengthening of the current FPAS framework.

87. Broaden the coverage of MPC Surveys to supplement the macroeconomic forecasting framework. The MPC conducts a CEOs Survey, Market Perception Survey and other adhoc surveys targeting specific sectors such as the hotels, every two months ahead of each MPC meeting. CBK will continue to enhance the coverage and information content from the Surveys. This includes broadening coverage of Surveys across different sectors and regions in the country.

88. **CBK continues to diversify its data sources and to collect more granular and high frequency data to support forecasting and monetary policy decision making as well as enhance its supervisory mandate.** The Bank is at an advanced stage of modernising its data management and business intelligence practices by way of employing emerging and modern data platforms such as implementation of enterprise data warehouse (EDW). The EDW will facilitate near-real time data capture and analysis.

Monetary Policy Transmission and Implementation

89. **Build on the current monetary policy operation framework through enhanced measures to align short term rates to the CBR.** In order to more accurately fine tune monetary policy transmission, there is need to align short-term rates to the policy rate, in particular the interbank rate, which can be considered as the operating target. Developments towards the use of a trimmed mean to eliminate the influence of outliers in the calculation of the interbank rate would provide a more balanced representation of an operational target.

90. **Enhance the functioning of the interbank market through roll out of a modern Central Securities Depository (CSD).** The CSD is being developed by the CBK in order to provide both domestic and foreign investors greater access to the capital market and promote confidence amongst market participants through improved liquidity for a range of debt instruments. The CSD will help manage systemic risk, improve and automate operations by eliminating paper-based processes via Straight Through Processing (STP) capabilities and enhance liquidity distribution through among other features, enabling full transfer of collateral for repo transactions.

91. **Strengthen market intelligence and engagement to improve functioning of the financial market and enhance policy transmission.** This will be achieved through direct interaction and dialogue with market participants in order to improve policy and operational decision making within the context of prevailing financial market conditions.

92. **Enhance transparency in loan pricing by banks for effective monetary policy transmission.** CBK to continue working closely with the banking sector in implementation of the Banking Sector Charter and risk-based pricing of loans to minimise variations in cost of credit across customers and banks. This will enhance monetary policy transmission.

Monetary Policy Communication

93. **Enhance CBK's public education role and broaden the set of stakeholders.** The use of traditional channels of communication with the public (opinion pieces, media interviews and reports) will be supplemented by the use of non-traditional channels such as social media as well expanding the set of stakeholders. This will raise awareness and improve public knowledge of the economy and facilitate more efficient decisions. A better understanding of economic issues will also lead to broader public support for CBK's actions and thus indirectly facilitate the conduct and effectiveness of monetary policy. In addition, the CBK's education role will be strengthen through publication of quarterly inflation reports, joint research and conferences and introduction of public forums across the major towns in Kenya.

94. Conduct regular evaluations of the effectiveness of monetary policy communication. Introduce target group analyses, media analyses, focus groups, surveys and make use of web statistics to measure the quantity and quality of communication. The results of these measures will be used to improve external communication.

95. The measures for implementation are presented in Table 2.

Table 2: Measures to Strengthen Kenya's Forward-Looking Monetary Policy Framework

Issues to be addressed		Action	Progress
Monetary Policy Decision Making Process			
1.	Refine macroeconomic modeling and forecasting frameworks in line with changing structure of the economy.	Diversify forecasting and analytical tools	• Forecasting and Policy Analysis System (FPAS) already in place.
		Enhance the coverage and information content from MPC Surveys.	• New surveys introduced with coverage across towns with CBK presence.
2.	Availability of timely and reliable high frequency and granular data.	Full implementation of EDW.	• Commenced roll-out of the EDW system.
Monetary Policy Transmission and Implementation			
3.	Functioning of the Interbank market.	Implement the CSD for effective horizontal repo market functionality.	• Implementation of a modern CSD already initiated.
		Developments of a trimmed mean to eliminate the influence of outliers in the calculation of the interbank rate to provide a more balanced representation of an operational target.	• Various measures of interbank rate being explored.
4.	Alignment of the CBR and short-term rate.	Enhance the clarity of monetary policy operations through introduction of a band around the CBR to provide an anchor to the interbank rate.	• Ongoing reforms to improve the functioning of the interbank market.
5.	Enhance transparency for loan pricing.	Continued implementation of the banking charter and risk-based loan pricing.	• Commercial banks have adopted the Banking Sector Charter • Implementation of risk-based pricing of loans by banks • Full disclosure to customers • Establishment of Credit Reference Bureaus (CRBs) to enhance credit information sharing
Monetary Policy Communication			
6.	Continue improving public understanding of monetary policy decisions.	Conduct joint research and convene conferences with other stakeholders.	• Expansion of outreach to various stakeholders (banks and non-bank players, media and the public). • Regular interactions at senior level between the CBK and financial sector. • Diversification of channels of communication to the public including social media.
		Expand the set of stakeholders.	
		Introduce public forums across major towns in Kenya.	
		Conduct regular evaluations of the effectiveness of monetary policy communication	
		Introduce publication of quarterly inflation report.	

6. THE MONETARY POLICY COMMITTEE'S COMMITMENT

96. Kenya has achieved tremendous transformation in the economic and financial landscape, payments and settlement system, as well as policy changes that have necessitated a review of the monetary policy framework. Important steps have already been taken in transitioning the monetary policy framework from a monetary targeting framework to a more forward-looking approach. In this regard, CBK has made major strides focusing on strengthening and monitoring the financial system, enhancing monetary policy implementation and transforming the communication strategy. Some of the critical steps include: strengthening forecasting frameworks and institutionalising market perception surveys to better assess inflation expectations; issuance of the Kenya Banking Sector Charter to improve transparency and promote ethical culture in the banking industry; introduction of a cost of credit website which provides information on fees and charges relating to loan products so as to enhance full disclosure to customers; initiated roll out of an upgraded CSD to improve CBK monetary operations and the functioning of the interbank market; and enhancement of its communication strategy in line with international best practices.

97. Despite the milestones achieved so far, further reforms are needed to fully adopt a forward-looking monetary policy framework. These reforms will enhance the effectiveness of monetary policy and support better anchoring of inflation expectations in view of the changing economic and financial environment. The MPC has reviewed Kenya's unique experiences, the experiences of advanced, emerging markets and peer countries, the insights from IMF Technical Assistance and international best practice, which formed the basis of identifying areas that need further reforms. The reforms mainly relate to the monetary policy decision process, monetary policy transmission and implementation, as well as communication. Specifically, the reforms will focus on: refining macroeconomic modeling and forecasting frameworks in line with the changing structure of the economy; improving the functioning of the interbank market in order to strengthen monetary policy transmission and operations; and further enhancement of communication and understanding of monetary policy decisions.

98. This review and the accompanying measures will assist in further refinement of monetary policy. To complement the positive gains made so far, the MPC is committed to further enhancing monetary policy effectiveness and aligning it to the new economic and financial realities.

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APPENDICES

Appendix 1: Summary Table and Detailed Country Experiences

Table 3: Summary of Country Experiences with Inflation Targeting

Country	Period adopted	Reasons for transition	Which inflation measure	A point target or a range	Monetary policy signal	Institution structure	Challenges/ Lessons for Kenya
South Africa	Pre-adoption August 1999, with official announcement February 2000	To better anchor inflation expectations in light of increasing difficulties in relying on monetary aggregates to guide the stance of monetary policy	Headline inflation	Target range, 3-6% to allow flexibility in absorbing shocks ±100 basis points interest rate corridor	Policy Rate Operating target is SA benchmark overnight interbank rate to be aligned to CBR	MPC made of 7 internal members	Significant divergences of inflation from the target range in 2002-03 and 2006-08 emanating from exogenous shocks.
Ghana	Pre-adoption 2002, with official announcement made in May 2007	To re-establish credibility and anchor inflation expectation Financial sector deepening	Headline inflation (Annual rate of CPI inflation)	Target range, at start was 14±1 percent to allow flexibility in absorbing shocks Current target is 8±2% ±200 (lower limit) ±100 (upper limit) basis points interest rate corridor	Policy Rate used to target inflation directly without using monetary aggregates.	Inflation target set jointly by the fiscal and monetary authorities MPC made of 7 members and 2 representatives from Treasury	Supply side constraint with food accounting for 45% of the CPI basket Fiscal dominance
Uganda	Abandoned monetary targeting in 2010, and official announcement in June 2011 of inflation targeting lite	Weakened relationship of inflation and monetary aggregates and instability of money multiplier with rapid growth in financial system, including increased integration to global financial markets Introduce flexibility in monetary policy formulation and ease of communication to public	Core inflation	Target core inflation to 5% over medium term ±300 basis points interest rate corridor	Central bank rate set by the MPC bi-monthly Operating target is 7-day interbank money market rates) to be within the range of CBR	MPC, excluding treasury official	Structural liquidity, volatility of the exchange rate

Country	Period adopted	Reasons for transition	Which inflation measure	A point target or a range	Monetary policy signal	Institution structure	Challenges/ Lessons for Kenya
Mauritius	Introduced inflation targeting lite in 2006	To better anchor inflation expectations amidst developing domestic financial sector and offshore sector	Headline inflation	Point target at 8 percent	Repo rate	8 MPC members	Structural liquidity
Georgia	Inflation targeting introduced in 2009, after transition from monetary aggregrate targeting	Better anchor inflation expectation	Headline inflation	Point target at 3 percent	One-week refinancing (or monetary policy rate) interest rate	12 MPC members	External and supply side factors/shocks
Brazil	Inflation targeting adopted in 1999	To anchor inflation, and contain large pass-through effects from the exchange rate devaluation to inflation	Annual Headline inflation rate (Broad National Consumer Price Index- IPCA)	A varying target range (band) ranging from ±1.5% to 2.5 % of an announced target	MPC - Selic rate	9 MPC members (Governor with all eight Deputy Governors)	External and Domestic shocks
Indonesia	Inflation targeting officially adopted in 2005	Better anchor inflation expectation, and need for adequate central bank flexibility in response to more complex economic developments and a stronger financial sector influence on macroeconomic stability	Annual headline inflation measured by CPI	Initially set at 6±1 in 2005; current inflation targets for 2019-2021 is 3.5%, 3% and 3% respectively within a ±1% corridor	Bank of Indonesia rate (BI rate) which is BI-7-day reverse repo rate	MPC comprising Governor (Chair), three deputy Governors and directors in the stability wing	External and Domestic shocks such as global oil price hikes, failed harvests and floods
Sweden	Inflation target adopted in January 1993 but started operation in 1995	Establish credibility of monetary policy following financial crisis in 1992	Headline inflation measured by Consumer Price Index with a fixed interest rate (CPIF)	Initially set at 2±1%; set at 2% in 2010; now at 2±1% since 2017	Repo rate	Executive Board takes decisions on the repo rate and any other complementary measures	External shocks especially in the Euro Area, this is highly integrated with Swedish economy
New Zealand	Inflation targeting adopted in 1990	To bring high inflation down and establish credibility	Headline inflation	Inflation: 1-3%, with a focus on the 2% target midpoint. Employment: no numerical target.	Official cash rate (OCR)	7 MPC members (4 internal and 3 external)	External shocks e.g. the COVID-19 Pandemic, oil price and GFC 2008/09.

Detailed Country Experiences

I. South Africa

1. **The primary objective of monetary policy in South Africa is to achieve and maintain price stability in the interest of sustainable and balanced economic development and growth.** In pursuit of this objective, South Africa Reserve Bank (SARB) adopted inflation targeting (IT) framework officially in February 2000, after announcing its intentions in August 1999. Prior to adopting the inflation-targeting framework, the Bank had implemented a number of frameworks including exchange-rate targeting, discretionary monetary policy, monetary-aggregate targeting and an eclectic approach.

2. **SARB has full operational autonomy. Monetary policy is set by the Bank's Monetary Policy Committee (MPC), which conducts monetary policy within a flexible inflation-targeting framework.** The inflation target, that is determined jointly by the Bank and the ministry of finance, is specified as a range/band of 3-6 percent on the headline inflation, with the band allowing some flexibility to absorb shocks outside the control of the reserve bank. This allows for inflation to be out of the target range as a result of first-round effects of a supply shock and for the Bank to determine the appropriate time horizon for restoring inflation to within the target range. This flexibility does not relieve the Bank of its responsibility with respect to returning inflation to within the target range but allows for interest rate smoothing over the cycle, which may mitigate any output variability from the monetary policy response to the shocks.

3. **On the institutional framework, SARB has a Monetary Policy Committee comprising seven members - the governor, three deputy governors and three senior officials of the Bank.** The reserve bank is accountable to the public through the ministry of finance. The Bank is required to submit an annual report on the implementation of monetary policy to the Minister of Finance. The MPC also explains to the Parliamentary Committee on Finance the monetary policy stance they have adopted. The MPC announces its decision on the policy rate that signals to the market the stance of monetary policy.

4. **On the implementation of policy decisions, all operations that affect market liquidity are handled by a centralised unit- the Financial Markets Department.** The bank seeks to align the operating target – the South Africa benchmark overnight interbank rate- to the policy (repo) rate based on an interest rate corridor of +/- 100 basis points on the policy rate. An appropriate liquidity requirement or structural money market shortage is created by levying a cash reserve requirement on banks. The cash reserve requirement is enforced based on a 1-month averaging framework. The main refinancing operation is the weekly 7-day repurchase auction, which is conducted with the commercial banks, at the repo (policy) rate as determined by the Monetary Policy Committee. The Bank lends funds to the banks against eligible collateral, which comprises assets that also qualify as liquid assets in terms of the prudential liquid asset requirement.

In addition to the main repo facility, SARB offers a range of end-of-day facilities for the commercial banks to square-off the daily positions on their settlement accounts, e.g. access to their cash reserve balances held with the Bank, supplementary repos/ reverse repos conducted at the repo rate and an automated standing facility whereby the end-of-day balances on the banks' settlement accounts are automatically settled at a rate of 100 basis points below or above the policy rate. A range of open market operations are also conducted to manage the liquidity in the market in order to enforce the monetary policy stance. The menu of open market operations includes: SARB debentures, reverse repos, the movement of public sector funds between the market and the Bank, and the conducting of money market swaps in the foreign exchange market.

5. Some challenges in implementing the inflation targeting framework is the significant divergences of inflation from the target range largely attributed to exogenous shocks. These challenges to the IT framework were generated by external environment. South Africa experienced substantial swings in the exchange rate, which complicated monetary policy management under IT. Other notable challenges include:

- Despite the Reserve Bank enjoying strong independence, the Bank Act (1989) legislation provides only for instrument independence. The government in consultation with SARB determines the inflation target, while the instrument to achieve the target is left to the choice of the central bank.
- While there were three key measures for inflation (headline, core, and headline excluding mortgage interest costs (CPIX)) to consider, the South African authorities opted for the CPIX. Despite this choice receiving wider acceptance by the public, CPIX remains prone to exogenous shocks. Initially, the target was specified in terms of an annual average rate of increase in the CPIX (between 3 and 6 percent for 2002-2003, and between 3 and 5 percent for 2004-2005). In late 2003, it was replaced by an end of year target of 3 to 6 percent for the period beyond 2006. The change was motivated by difficulties in achieving the average target, a desire to maintain a reasonable measure of latitude, target a gradual reduction in inflation (not too costly in terms of growth), and simplify the target to better anchor expectations.
- The Reserve Bank, under the formal IT framework, needed to make explicit its inflation forecast. This, coupled with the need to review an expanded set of indicators for MPC decisions, meant that the MPC decisions needed to extensively reflect an elaborate evaluation of macroeconomic conditions, using more advanced analytical and forecasting tools.
- The use of an escape clause created confusion initially. The escape clause— designed to allow for influence of exogenous shocks—caused problems in communicating monetary policy decisions. This was eventually replaced by an explanation clause (2003), which was used in case of failure to achieve the target to inform the public about the nature and anticipated impact on inflation of the exogenous shock, and the policy response and the projected time for returning to target range.
- Some reforms were needed to improve monetary policy implementation. Notably, the Reserve Bank amended the repurchase system introduced in 1998. The repurchase rate was fixed to eliminate ambiguity about the policy signal. At the same time, the Reserve Bank introduced weekly repurchase tenders with 7-day maturity, and a discretionary daily final clearing repurchase (supplementary tenders) with a 1.5 percent symmetric penalty rate was also added.

II. Ghana

6. **The monetary policy objective of the Bank of Ghana (BoG) is price stability – low inflation – and subject to that, to support the Government's economic objectives, including those for growth and employment.** Price stability-defined by the government's inflation target- is revised annually and spelt out clearly in the budget statement for each fiscal year. In line with this target, the Bank is accountable to Parliament and the wider public.

7. **On the institutional framework, BoG has a Monetary Policy Committee (MPC) comprising seven members - 5 internal members and 2 representatives from Treasury.** MPC meetings are chaired by the Governor and its decisions are made by a vote of the Committee on a one-person one-vote basis, with each member stating clearly and with reasons why a particular rate decision was preferred or otherwise. The final decision is reached by consensus. In pursuit of achieving the inflation target, the MPC makes decisions on the policy interest rate.

8. **BoG transitioned to inflation targeting (IT) in 2002 to re-establish credibility and anchor inflation expectations.** This required a series of reforms to both the fiscal and monetary policy frameworks as well as supporting legal and regulatory reforms. Ghana pre-adopted IT in 2002 and officially a transition to a full-fledged IT in May 2007. During the transition period, BoG maintained a single nominal anchor which was inflation itself. However, the BoG constantly used a multiple set of indicators—including monetary aggregates—to assess the appropriateness of monetary policy stance during the MPC deliberations. Monetary aggregates continued to be relevant in Ghana given the highly cash-based economy and relatively low development of the financial sector. The preconditions for moving to a full-fledged IT framework included; complementary fiscal discipline; transparency of the IT process; improvement of communication strategy to the market in terms of setting of inflation targets and the decisions behind any unforeseeable deviations in the policy rate.

9. **As part of the transition arrangement, a framework was put in place to ensure policy coordination between the fiscal and monetary policy authorities.** A joint committee was established between the Ministry of Finance and the BoG to meet regularly to set inflation targets as part of the annual budget preparation process. The committee also reviews macroeconomic performance on weekly basis which feeds into the MPC process. Under Ghana's inflation targeting regime, the monetary and fiscal authorities made a joint institutional commitment to price stability as the primary goal of monetary policy, to which all other goals are subordinated.

10. **The BoG used the transition period to strengthen its monetary policy implementation capacity and to close some key data and information gaps that are critical to the IT process.** To increase the effectiveness of the transmission of monetary policy and enhance transparency and competitiveness of the interbank money market, the BoG introduced a new interest rate corridor framework. The corridor was bordered by the reverse repo rate (policy rate minus a margin—200bps) at the lower limit and a policy rate plus a margin (100bps) on the upper limit. The interest rate differential was intended to create an incentive for banks to deal among themselves; recourse to the BoG expected to be the last resort. The BoG introduced an overnight repo to provide the BoG a presence in the market to increase its ability to influence short-term interest rates in the market.

11. **BoG pursues a medium-term inflation target (currently 8±2 percent), which is set jointly by the fiscal and monetary authorities, based on an annual rate of overall Consumers Price Index (CPI) inflation.** Ghana chose the CPI as the basis for measuring the inflation target, due to its high frequency of availability and relative quality as well as ability of the general public to understand its use. However, the BoG monitors closely a set of core inflation measures which is very critical in the monetary policy decision process. The band is provided to allow flexibility in absorbing shocks. Although the Bank is not bound by law to explain developments to the Ministry of Finance or to Parliament if the target is not achieved, the Governor of the Bank of Ghana may be summoned to the Finance Committee of Parliament to explain developments within the economy.

12. **BoG also started to build its modeling and forecasting capacity with the help of the IMF and the Bank of England to provide support to IT implementation**. The BoG introduced the use of surveys to measure businesses' and consumers' confidence and expectations. In addition, the BoG developed a composite index of economic activity as a tool to help the MPC to gauge the pulse of economic activity in deciding on the direction of monetary policy.

13. **A new communication strategy was introduced at BoG to increase transparency and accountability.** The BoG developed the capacity to publish a comprehensive set of reports cutting across all the key sectors of the economy on a regular basis as part of the MPC process. Key reports covered: external sectors; fiscal sector; monetary and financial sector; banking sector; real sector; and assessment of current price conditions and inflation forecast. These reports are published every other month after MPC meetings.

14. **However, BoG has experienced a number of challenges with IT.** These include: supply side constraint with food accounting for 45 percent of the CPI basket and re-emergence of fiscal pressures has challenged the IT process since 2008. In addition, difficulties have been recorded in fully incorporating real sector developments into monetary policy decision making due to lack of quality and high frequency real sector data.

III. Uganda

15. **The primary policy objective of the Bank of Uganda's monetary policy is to hold annual core inflation to a medium-term target of 5 percent.** A secondary policy objective of monetary policy is to ensure that real output is as close as possible to the economy's potential level. Uganda officially adopted IT-lite in June 2011 as part of its monetary policy modernisation following a number of challenges in macroeconomic management generated by the transformation of the economy that made monetary aggregates targeting untenable. The preconditions implemented before moving to IT included an overhaul of communication policy to support policy communication to the public and clear separation of the domestic financing of the budget from monetary policy, and avoidance of government borrowing from the central bank.

16. **The Monetary Policy Committee (MPC) makes decisions on the stance of monetary policy to be pursued by the Bank to achieve the inflation target.** The MPC meets every two months to set the policy (bank) rate. The operating target is a 7-day interbank money market rate that is set within the bank rate range. The monetary policy committee in Uganda is comprised fully of Bank of Uganda officials.

17. In the implementation of the decisions of the MPC, the main objective is to steer the 7-day interbank money market rate towards the policy rate within a ± 3 percentage points range corridor. The main instruments used include REPOS/reverse REPOS, deposit auctions and sale of recapitalisation Treasury securities in the secondary market (to mop-up liquidity beyond 60 days). There also exist standing facilities – the rediscount window- whose interest rate is 4 percentage points above CBR and bank rate is priced at 1 percentage point above CBR. The statutory reserve requirements that are maintained based on an averaging framework over 14 days, is not used as a monetary policy instrument but as a macro-prudential tool. With regard to foreign exchange market interventions, BoU carries sterilised interventions to reduce excess volatility, not targeting particular level of the exchange rate.

18. BoU has reported some success with implementation of its IT-lite framework. For instance, the pass-through from the CBR to interbank interest rates and Treasury Bill rates has been effective. In addition, core inflation averaged 4.4% over the period 2014-2019, close to the target of 5 percent in the medium term.

19. BoU acknowledges that the main challenges in implementation of IT lite include limitations in the management of structural liquidity and the volatility of the exchange rate.

Other challenges include:

- Asymmetry in the transmission mechanism (when BoU increases the CBR, lending rates also increase but are sticky downwards) and long lags in the transmission of policy to the economy.
- Supply-side-shocks-induced inflationary pressure that require to be addressed with structural policies.
- Continued global economic uncertainty, which increases the forecast error for the associated global risks. This reduces the ability to predict the future and the efficacy of a forward-looking monetary policy framework.
- Volatilities in capital flows and the associated exchange rate volatility, which strain the internal balance between aggregate demand and supply in the economy. The fact that exchange rate fluctuations are a major concern in Uganda, like in so many other low-income countries, raises the danger that monetary policy may put too much focus on limiting exchange rate movements, even under an inflation targeting regime.
- Market segmentation in the interbank market continues to weaken the transmission of policy signals.
- Fiscal dominance issues and inconsistent fiscal policies conflict with monetary policy
- Low capitalisation of the Central Bank constraints the ability of BOU to conduct Monetary policy. Periodic requests for capitalisation undermines independence of the central bank.

IV. Mauritius

20. The Bank of Mauritius Act (2004) stipulates that the primary object of the Bank is to maintain price stability and to promote orderly and balanced economic development.

21. The Bank of Mauritius (BOM) introduced inflation targeting lite in December 2006, and introduced a broader set of indicators to monitor, which are classified in two groups. Group 1 focuses on economic analysis that measures short and medium- term risks to price stability. Group 2 evaluates monetary developments and the associated long-term risks to price stability. Used in combination, the two groups provide a crosscheck of the risks to price stability stemming from shorter-term economic developments and longer-term monetary developments. This ensures that the conduct of monetary policy does not overlook important information relevant for assessing future price trends.

22. In this framework, the repo rate is used as the policy rate, in place of the Lombard rate, to signal monetary policy stance. The BOM sets the repo rate and announces its level via an official communique. In the implementation of this stance, the BOM regulates the supply of reserve money such that the overnight interbank money market interest rates move close to the Repo Rate. BOM supplies or absorbs liquidity from the system against collateral at its discretion and in whatever volume required to hold the overnight interbank interest rates close to the Repo Rate following a predetermined corridor.

23. There exists an interest rate corridor that provides a ceiling and a floor for overnight interbank interest rates. BOM lends money to banks at the ceiling of the corridor which is set at 50 basis points above the Repo Rate. Conversely, BOM absorbs excess funds at the floor of the corridor which is set at 50 basis points below the Repo Rate. Depending on the evolution of the market, BOM may vary the width of the corridor with a view to achieving its objective. In the light of the fact that instabilities in the general price level could emanate from the supply side and compromise the achievement of price stability, BOM, in addition to overall inflation, monitors movements in the core inflation rate in its conduct of monetary policy.

24. The BOM reviewed the minimum Cash Reserve Ratio Requirement (CRR) and its Standing Facilities to support the 'corridor framework'. To provide more flexibility to banks, BOM in January 2007 lengthened the maintenance period from 1 to 2 weeks, with one maintenance period running from 19th date of the month to the 1st date of the following month. Within this period, banks observe the CRR requirement on the basis of averaging of reserve balances. The liabilities that are subjected to CRR are the average deposit liabilities held over the two-week period preceding the maintenance period. However, on any particular day during the maintenance period, the minimum cash reserve ratio shall not fall below 2.0 per cent of average deposit liabilities. On the standing facilities, BOM abolished the Lombard facility and Lombard rate in December 2006. In its place, BOM, as a lender of last resort, continued to provide a collateralised overnight standing facility to banks without any borrowing quota restriction. The interest rate chargeable on the Standing Facility was set at 400 basis points above the Repo Rate.

25. Challenges with the interest rate corridor framework implemented in Mauritius mainly is the constant need for BOM to enhance its ability to deal with structural liquidity. In this regard, BOM has made some strides with the conduct of open market operations. These has taken the form of lengthened maturity up to one year of Bank of Mauritius Bills and introducing a 3-year Bank of Mauritius Golden Jubilee Bond that was proposed to retail customers in 2018.

V. Georgia

26. The main objective of the monetary policy is to maintain price stability, where price stability implies the existence of a moderate and predictable rate of inflation, which is a

necessary precondition for long run economic growth. Georgia officially moved to inflation targeting in 2009 after monetary targeting framework became less efficient in controlling inflation. Switching to inflation targeting regime in 2009 was an important step towards improving monetary policy and enhancing its efficiency. Under the IT regime, the inflation target is announced in advance by the MPC. The current long-run desired level of headline inflation in Georgia is 3 percent for 2021-2023 as indicated in the 'Directions of Monetary and exchange rate Policy' report.

27. **Monetary Policy committee formulates and implements the monetary and exchange rate policies.** The MPC consists of 12 members -the Governor, two vice Governors, and heads of relevant Divisions and Departments. MPC meets twice in a quarter (3 months) in line with a pre-announced schedule. The MPC makes decisions on the inflation target to announce and monetary policy rate. The monetary policy rate is the interest rate on refinancing loans -which is the minimum interest rate on one-week refinancing loans, provided to commercial banks. A press release on the MPC's decisions of changes or maintaining the refinancing rate is published on the National Bank of Georgia's (NBG's) website on the same day.

28. **Under the IT framework the short-term interest rates are used as the operational tools.** Where the changes in the short-term rates are transmitted to long-term interest rates and eventually to aggregate demand and inflation. Monetary policy transmission mechanism in Georgia operates with a time lag of 4-6 quarters. Inflation forecasts play a critical role in guiding MPC on the decisions to take in order to achieve price stability. Macroeconomic models are used to generate sound forecasts, and also provide clear instructions on how to set monetary policy instruments to move inflation back to target. The operational framework defines the procedures of how to achieve the desired money market rates with existing instruments such as refinancing loans, one-month open market operation, open market operations with certificates of deposit and treasury securities, overnight loans and overnight deposits, minimum reserve requirements and other instruments.

29. **External and supply side factors have led to significant deviations of inflation from target in Georgia and like all central banks, the NBG activates its monetary policy tools when the shock is from the demand side.** When it comes to supply side exogenous shocks, it usually does not react, since doing so might lead to high economic and social costs. However, if a deviation is so significant that it may impact inflation expectations, the NBG is ready to react. Price fluctuations are frequent on the international commodity markets and a small country like Georgia imports those fluctuations to domestic inflation. This vulnerability to external shocks is common to all small open economies. Despite this, the NBG adopted IT and it has worked well in bringing inflation under control in the last decade.

30. **The inflation targeting framework has worked well in Georgia with headline inflation averaging 3.7 percent since 2010.** The NBG has demonstrated successful use of instruments at its disposal to meet inflation target. Moreover, NBG has effectively communicated, in a transparent and accountable manner the inflation outcomes and their actions to bring inflation back to target. The country has experienced inflation volatility since adoption of IT, for instance in 2011- the country experienced a spike in food inflation from soaring international food prices. Consequently, inflation increased to 14 percent and given the weight of food in the consumption basket–NBG responded by increasing its

monetary policy rate to contain expectations. Subsequently the country experienced other crises - plunging of oil prices in 2014-2016, changes in taxes on commodities in 2017, political instability in 2019 and the pandemic in 2020, through it all, inflation has fluctuated in and out of the target, but in overall, has been brought back under control.

VI. Brazil

31. **Keeping inflation around the target is a fundamental objective of Central Bank of Brazil (BCB).** Brazil adopted inflation targeting framework in 1999 under the Real Plan launched in 1993. The adoption of IT followed a pro-longed period of spiraling inflation, from the mid-1980s, and inflation reaching a high of 4,922 percent in June 1994. Under the IT framework, the National Monetary Council (CMN) establishes an inflation target and the Monetary policy committee (Copom) sets the Special System of Clearance and Custody (Selic) rate that is expected to ensure the achievement of the inflation target or keep it within a tolerance interval. The inflation target is an annual inflation rate based on the National Consumer Price Index (IPCA), equivalent to annual headline inflation rate. Brazil's inflation target is set at 3.5 percent in 2022, a decline from a target of 3.75 percent in 2021. The monetary policy horizon –setting the inflation target is a 2-year horizon 2021-2022, reviewed annually. The targets were at all-time high at 8.0 percent in 1999 and record low of 3.5 percent in 2022.

32. **Monetary Policy committee (Copom), created in June 1996, is responsible for setting the target for the policy interest rate – the Selic rate.** The Copom comprises the Governor and eight deputy Governors[36] and meets eight times a year (every 45 days) as scheduled in advance, in June of the previous year. Under the IT framework, the Copom's objective is to keep the inflation rate, measured by the IPCA, in line with the inflation target set by CMN. Copom meetings take place over two days with technical presentations on day one and decision making on day two. Clear and transparent communication is key for the achievement of monetary policy objectives. The decision is then disclosed on the internet on the same day through the Copom statement which also explains the reasons behind the decision and reveals all members' votes. Besides the Copom statement and minutes, the BCB also publishes the Inflation Report on March, June, September and December — which analyses recent developments and prospects of the economy, with emphasis on the inflation outlook.

33. **Implementation of Copom's decision are done the day after the decision is made public.** The BCB performs open market operations, that is, selling and buying federal government securities to ensure the Selic rate stands around the target set by the Committee. The primary instrument of monetary policy is the Selic rate which is defined as average interest rate charged on the daily interbank loans with a maturity of one day (overnight) backed by federal government securities, registered in Selic. Overall, the Selic rate balances the market for the bank reserves. Other monetary policy instruments include the usual tools such as OMO, RR, DR and communication which affects the expectations channel.

34. **The implementation of the Real Plan has managed to accomplish sustainable price stability in the long term.** Brazil experienced inflation spiral in the mid-1980s that led to the

[36] The eight deputy governors are for Administration, Economic Policy, Institutional Relations and Citizenship; International Affairs and Corporate Risk Management; licensing and Resolution; Monetary Policy; Regulation and Supervision

implementation of the Real Plan, launched in 1993, to stabilise the economy. The Real Plan was combined with deep structural and institutional reforms, that included adoption of a new currency — in July 1, 1994 and adoption of inflation-targeting regime in 1999. Brazilian inflation declined from 4,922 percent in June 1994 to 916 percent in December 1994. In 1995, the annual inflation rate decreased to 22 percent. Since then, several international and domestic shocks have put the price stability at risk and inflation rate moved outside the tolerance intervals in 5 years -2001, 2002, 2003, 2015 and 2017. In general, the adoption of IT framework has succeeded in keeping the actual inflation rate within the tolerance interval in most of the calendar years since its adoption in 1999. The regime has allowed inflation to be under control at relatively low levels, and converging to international benchmarks.

35. **When Brazil is faced with major shocks that push the inflation rate beyond its tolerance interval, inflation has eventually converged back to the target path.** Anchoring inflation expectations has played a critical role in bringing inflation back to target range. Moreover, credibility of BCB has provided greater predictability for the economic outlook. In the initial years of adoption of IT the major challenges in Brazil were on the construction of credibility, change in relative prices and exchange rate volatility. In the recent past, external and domestic shocks continue to pose risks to the IT framework in Brazil.

VII. Indonesia

36. **The overriding objective of monetary policy in Indonesia is to create and maintain rupiah stability that contains two salient aspects, namely stability in relation to goods and services, which is reflected in the inflation rate, as well as stability against other currencies that is reflected in the exchange rate against foreign currencies.** Inflation targeting was officially adopted in 2005 after a period of preparation -laying of the legal foundation for inflation targeting in 1999. Bank of Indonesia introduced the "BI Rate" as the main policy interest rate, to streamline and simplify its monetary operations and provide markets with a clearer signal of the monetary policy stance. The inflation target is set by the Government -through a Minister of Finance Regulation (PMK), for the next three years, consequently, the IT for 2019, 2020 and 2021 was set at 3.5%, 3% and 3% respectively within a ±1% corridor.

37. **MPC comprising the Governor, three Deputy Governors, and some Directors in BI's monetary stability wing is responsible for monetary policy decisions.** The MPC meets regularly before the monthly Board Meeting and invites relevant BI staff to a Pre-Board Meeting the day before the Board Meeting. In the Pre-Board Meeting, BI staff present information on monetary and economic conditions (including surveys of real activity), banking and financial markets, and international issues. This process allows the Board Meeting to more effectively focus on the monetary policy stance and the decision on BI rate.

38. **Monetary policy decisions are implemented with the aim of achieving monetary stability in the money and foreign exchange markets in an integrated manner.** Monetary operations are conducted in a conventional manner and also based on sharia principles. The Overnight Interbank Money Market (PUAB O/N) is the operational target of monetary policy and is allowed to move around the policy rate which is BI 7-Day Reverse Repo Rate (BI7-DRR) for monetary stability. Bank of Indonesia conducts liquidity management in the money market through liquidity absorption and/or liquidity injection to control the interest

rate. To maintain the exchange rate in line with its fundamental values, Monetary Operations are conducted through the implementation of interventions and/or other foreign exchange transactions on the foreign exchange market. Monetary operations consist of Open Market Operations (OMO) and Standing Facilities (SF).

39. Indonesia has been experiencing relatively low and stable inflation in the recent past mainly due to better anchored inflation expectations owing to the more credible inflation targeting framework. Nevertheless, building and maintaining credibility remain the key challenge, as credibility affects the behavior of economic agents and anchors expectations.

40. Bank Indonesia's ability to control inflation is constrained by key domestic and external shocks, such as the global oil price hikes and other supply side, such as, failed harvests and floods. Based on the weights in the CPI basket, the components of inflation influenced by supply-side factors and shocks are represented by volatile foods and administered prices, accounting for around 40% of CPI.

VIII. Sweden

41. The objective for monetary policy in Sweden is to maintain a low and stable rate of inflation. Precisely, the Riksbank's target is to hold headline inflation (measured by Consumer Price Index with a fixed interest rate (CPIF)) at around 2 percent a year. The Riksbank adopted inflation target in January 1993 but operationalised in 1995. The switch followed the collapse of the pegged exchange rate for the krona during the European exchange rate crisis in the fall of 1992. The target was set at 2 percent within a tolerance band of plus or minus 1percentage point. The early years of the inflation target was a period of experimentation for the Riksbank, as it had no prior experience of implementing inflation targeting. The monetary policy strategy was forward-looking monetary policy rule involving raising/lowering the repo rate if forecast inflation 1-2 years ahead is above/below 2 percent in order to fulfil the inflation target.

42. Monetary policy decisions are made by the Executive Board consisting of six members and holds five scheduled monetary policy meetings every year. Monetary Policy Department (APP) analyses new statistics and events in the economy and then produces a main forecast for how inflation, the repo rate and the economy will develop. During meetings, the Executive Board establishes its majority view of what is considered a well-balanced monetary policy, giving consideration to inflation and the developments in the real economy during the forecast period. After that, the Board reaches a decision on the repo rate and on a forecast for the future repo rate. The Monetary Policy Report is published on the Riksbank's website at the same time as the decision on the repo rate is published; normally the day after the monetary policy meeting.

43. To implement its monetary policy, the Riksbank uses its operational framework with the assistance of market operations and standing deposit and lending facilities. Market operations are primarily aimed at managing liquidity in the banking system while the standing deposit and lending facilities are aimed at ensuring that the overnight rate on the market for Swedish krona is close to the repo rate.

44. The initial reaction to the inflation target was skeptical due to Sweden's history of high inflation in the 1970s and 1980s. However, inflation fell and held steady at around 2 percent from the late 1990s until the early 2010s. Inflation averaged 1.7 percent from 1993 until 2019, which was well within the Riksbank's original tolerance band of 1 to 3 percent. Riksbank announced the introduction of a negative policy rate and a program of quantitative easing in February 2015 following inflation falling short of the target. Riksbank maintained its negative interest rate policy throughout the boom until December 2019, when it raised the interest rate to zero percent. While the impact of negative rates on domestic inflation rate was small, probably negligible, the effects of negative rates on the housing market and on household debt levels were large. Negative interest rates boosted property prices and household debt levels to new record levels relative to income.

45. The Swedish economy is highly integrated with the European economy. About half of Swedish exports go to the euro area. Even sectors that do not directly export to the Euro area are still highly integrated with the Euro area economy through their supply chains. As a result, improved economic conditions in the Euro area are a more important factor behind the rise in inflation than the Riksbank's policy based on negative rates.

IX. New Zealand

46. The primary objective of monetary policy is to maintain stability in general level of prices and support maximum sustainable employment defined in the Remit to the monetary policy committee (MPC). New Zealand was the first country to adopt inflation targeting in February 1990. The remit requires that headline inflation is kept between 1 and 3 percent on average over the medium term, with a focus on keeping future average inflation near the 2 percent target midpoint. There is no numerical target for employment, as a range of different indicators are used to assess the maximum sustainable level. The monetary policy is implemented using the Official Cash Rate (OCR) and the remit is provided every 3 years.

47. The Monetary Policy Committee (MPC) is responsible for formulating monetary policy directed towards the economic objectives of achieving and maintaining stability in the general level of prices over the medium term and supporting maximum sustainable employment. The MPC comprises seven members; 4 internal members (Governor; Deputy Governor[37] ; Assistant Governor[38] ; and Head of Economics[39]) and 3 external member practitioners. The MPC is subject to the remit, the MPC charter, and the code of conduct. The remit sets out the monetary policy objectives while the Charter facilitates effective decision making by the MPC and ensures transparency of the decisions and the decision-making process, in order to aid the effectiveness of monetary policy and hold the MPC accountable. The code of conduct of the MPC sets out minimum standards of ethical and professional conduct that must be adhered to by members of the Committee. The Bank reviews and releases Monetary Policy Decisions seven times a year and publishes Monetary Policy Statements every quarter.

48. Monetary policy decisions are implemented by setting the Official Cash Rate (OCR seven times in a year, to influence the price of borrowing money in New Zealand,

[37] Also General Manager Financial Stability
[38] Also General Manager Economics Financial Markets and Banking
[39] Also Chief Economist

thus eventually influencing the level of activity and inflation in the economy. The OCR is currently at a record low rate of 0.25 percent. In case of a crisis, the MPC is mandated to decide and evaluate on any additional tool to adopt, against a set of principles, and decide on best tool to achieve the inflation and employment mandate. The transmission time of changes in interest rates on economic activity through various channels is two years in New Zealand, although the strength and timing of interest rate effects can vary due to factors outside of control of RBNZ.

49. The implementation of IT successfully brought inflation under control in New Zealand. In the 1970s and 1980s, New Zealand's annual inflation had been around 10 to 15 percent and was considerably higher than inflation of their main trading partners. The high inflation was accompanied by low average growth outcomes and significant macroeconomic instability induced by switching between short term nominal and real objectives. It was thus natural to move to lower levels of inflation and incur the short-term costs of foregone output and employment for long term growth. Since adoption of IT, inflation averaged 2.4 percent in the 1990s, and 2.15 percent in 2000's, compared to an average of 11 percent in the two decades of 70's and 80's. Since September 2002, the inflation target has been to keep inflation within a range of 1–3 percent on average over the medium term.

50. External factors pose challenges to the IT framework in New Zealand, albeit without denting inflation out of trend for long periods, as MPC adopts additional tools in controlling inflation. The country was affected by global financial crisis of 2008/09 and high oil prices that moved the inflation beyond target and MPC responded by lowering OCR by 575 basis points from June 2008 to June 2009, to support the economy at a time of distress and anchor long term inflation expectations within the target range. The recent COVID-19 pandemic crisis in 2020 also necessitated adoption of new tools to stimulate the economy by RBNZ. The MPC used forward guidance in March 2020 where the RBNZ announced the OCR would remain at 0.25% for the next 12 months; made large-scale asset purchases (quantitative easing) and used funding for lending from RBNZ at 0.25%. Other new tools under discussions are the negative OCR, foreign assets purchase and interest rate swaps.

Appendix 2: Day to Day Implementation of Monetary Policy

1. **Monetary policy implementation has evolved in tandem with the evolution of financial and policy environment.** Following the liberalisation, development and modernisation of financial markets, many developing countries including Kenya have transitioned from direct instruments to indirect instruments of monetary policy (Quintyn,1991).[40] Indirect instruments are actions taken by the central bank to achieve its monetary policy objectives by encouraging market participants to take particular actions in terms of their lending and borrowing behavior (Gidlow, 1998). Kenya introduced the use of indirect instruments in 1990. Henceforth, the OMOs became the central banks' main tool for monetary policy implementation. Other tools are reserve requirements and standing facilities.

i. OMOs is conducted through repurchase agreements (Repos) and term auction deposit (TAD). Under Repo arrangement, the central bank sells or buys eligible securities of treasury bills/bonds to commercial banks with the aim of influencing the level of liquidity in the banking sector. The principle therefore is to sell securities in order to sterilise any excess liquidity in the banking system or buy securities to inject liquidity into the system. The repo tenors are for 3 and 7 days. TAD compliments Repos when CBK considers it desirable to offer longer tenor options (14, 21, or 28 day periods), and are not securitised. OMO can be used to stabilise short-term interest rates.

ii. Cash reserve requirements (CRR) are the amount of funds that a depository institution must hold as deposits with the central bank against specified total commercial banks' deposit liabilities in accordance with the law. These deposits are held in the CBK at no interest. The CBK allows averaging of reserves by commercial banks on a one-month maintenance period to facilitate commercial banks' liquidity management. Thus, currently banks have to meet CRR of 4.25 per cent based on a daily average level from the 15th of the previous month to the 14th of the current month with a daily floor of 3 per cent CRR.

iii. The standing facility at the CBK (often referred to as the discount window) is where banks can come for secured loans from the central bank on an overnight basis at a punitive rate that is over the CBR. The punitive rate ensures that banks source for funds from the market before resorting to the central bank for accommodation. The CBK does not have automatic standing facilities with respect to overnight lending.

2. **Monetary policy implementation is broadly guided by the MPC's monetary policy stance.** The operational procedures is guided by the Monetary Policy Management Committee (MPMC), which meets three times a week (Monday, Wednesday and Friday) by 11.00 a.m. to recommend OMO actions on whether to mop / inject liquidity or stay out of the market as appropriate and in line with the liquidity conditions and the MPC stance. On non MPMC-meeting days the OMO and Forex dealer's unit holds internal operational meetings to recommend OMO action, and seek concurrence from the MPMC, Chairperson. The MPMC decision is guided by among others:

i) The day's and weekly liquidity forecasts

ii) Reports on development and expectations in the domestic money markets, in particular the interbank market

iii) Reports on developments and expectations on forex markets.

[40] Direct instruments include interest rate controls, credit ceilings and direct lending. Direct instruments became increasingly ineffective and irrelevant as money and financial markets developed and modernised. Indirect instruments are market-based instruments, including open market operations, reserve requirements and standing facilities. Indirect instruments offer greater flexibility and encourage Central Bank Independence.

iv) Any other related information, including levels of government deposits at the Central Bank, and interactions/Survey with commercial banks dealers to obtain perceptions on money market liquidity conditions.

3. The CBK OMO actions are advertised on Reuters, including the amount it intends to inject or mop up. Commercial banks send in their bids at competitive rates indicating the tenors and bid rate. The CBK decides on a cut-off rate.[41] In order to enhance clarity and certainty in monetary policy implementation, the CBR is the base for all monetary policy operations. In pricing repos, whenever the CBK is mopping liquidity (Repo), the CBR is the maximum rate (ceiling) acceptable. Likewise, whenever the CBK is injecting liquidity (Reverse Repo), the CBR is the minimum rate (floor) acceptable by the Bank.

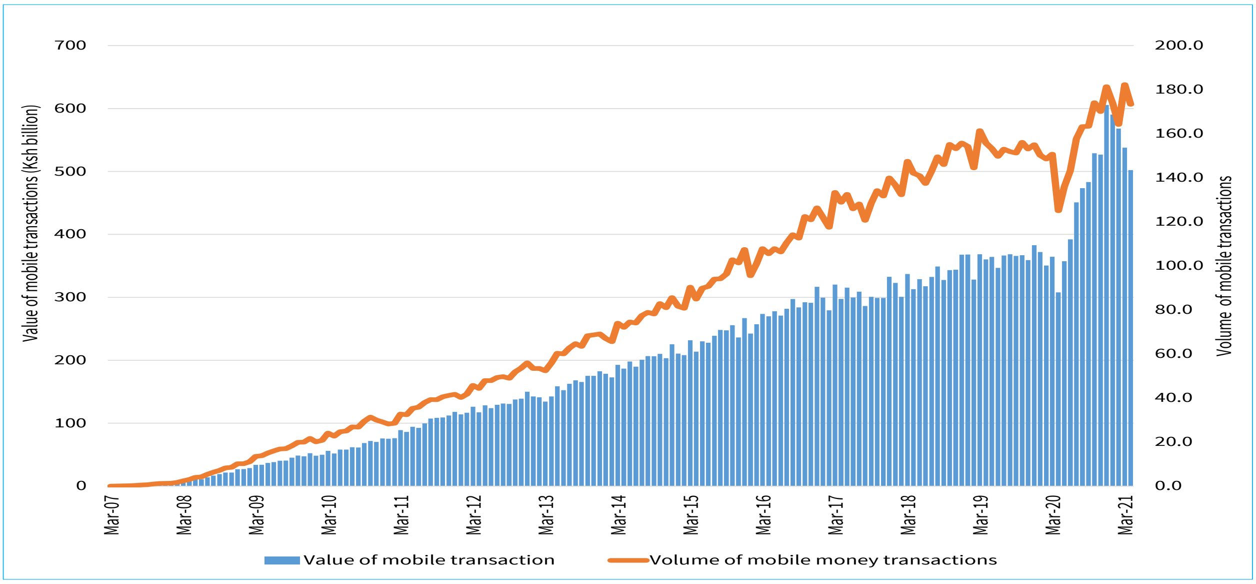
4. The CBK began modernising monetary policy implementation by aligning the interbank rate with the CBR as part of transition to forward-looking monetary policy framework in 2012. Monetary operations were aimed at fine-tuning liquidity to confine the interbank rate within a corridor that was defined as (±) 2.5 per cent on the policy rate. In 2015 and 2016 segmentation in the interbank market was exacerbated by the collapse of three commercial banks, and the CBK had to abandon the transition in order to concentrate on financial sector stability.

5. Over the recent period, the liquidity conditions in the financial sector and interbank segmentation have been improving, reflected by a narrowing in interbank spreads and improved interbank volumes (Figure 5). This is expected to improve further supported by the ongoing CBK initiative to develop a CSD alongside other developments to strengthen the financial sector such as the recent mergers and acquisitions. Moreover the CSD will go a long way to ensure the full transfer of ownership of collateral in the repo markets. The strengthening of the functioning of the interbank market is key to enhance the effectiveness of monetary policy implementation and transmission.

[41] OMO has been conducting multiple price auctions. In a multiple price auction successful bidders pay the cut-off price irrespective of what they bid. Other auctions techniques common in financial markets are the single price method and hybrid or Spanish auction.

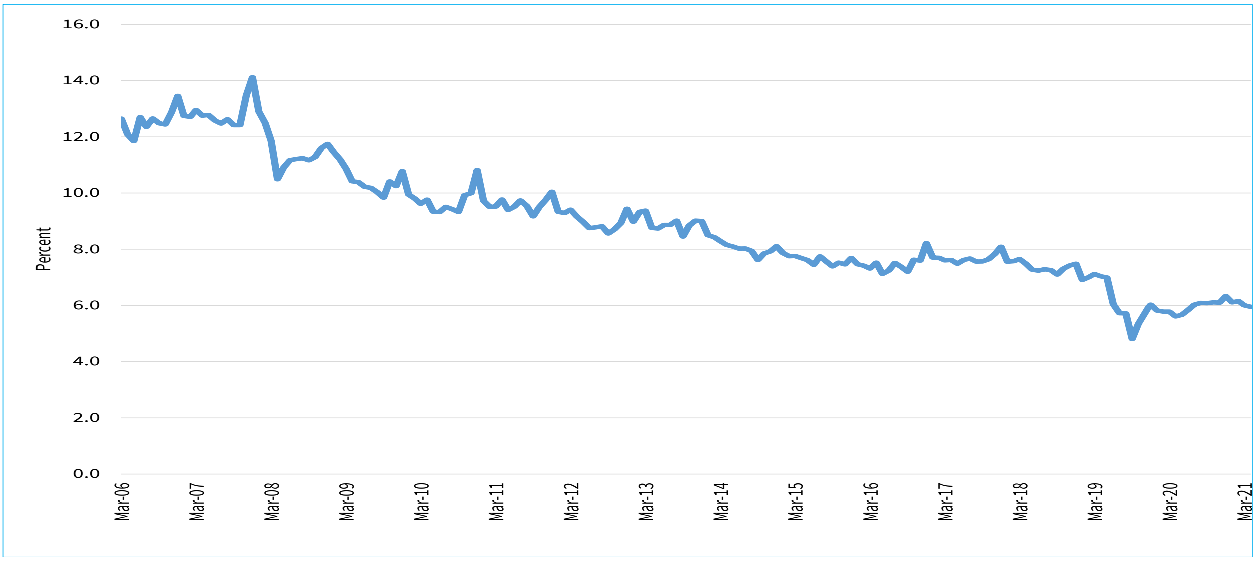
Appendix 3: Figures

Figure 1: Volume and Value of mobile transactions



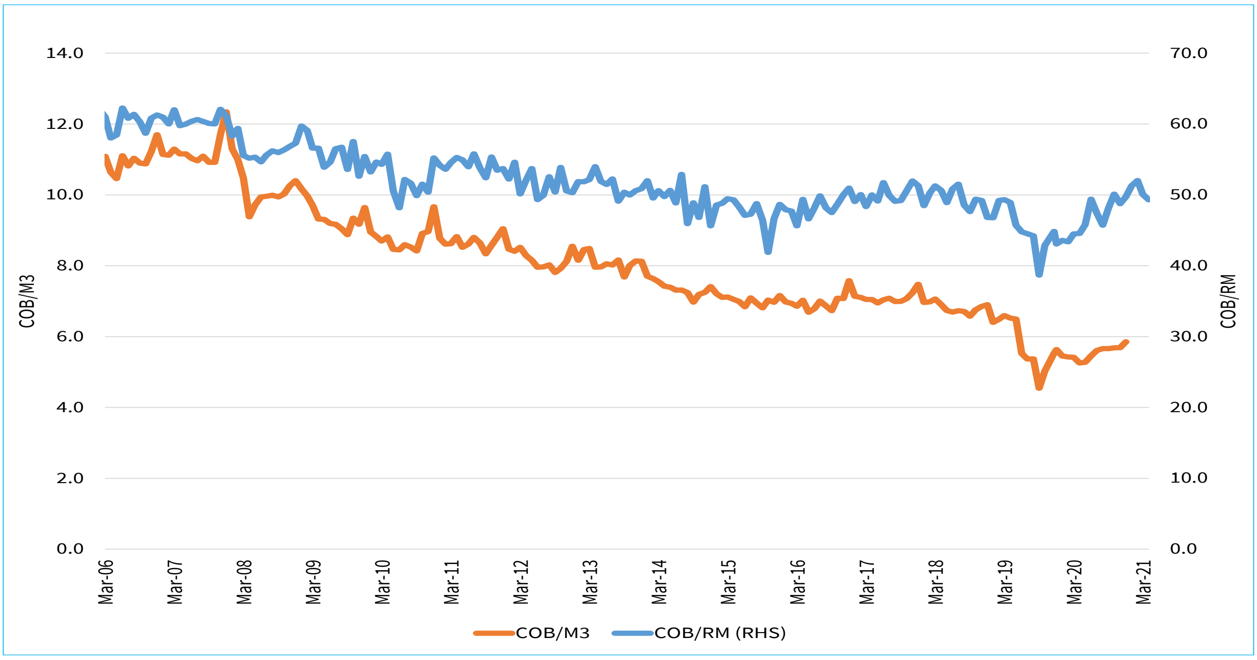
Source: Central Bank of Kenya

Figure 2: Currency outside banks to deposit ratio



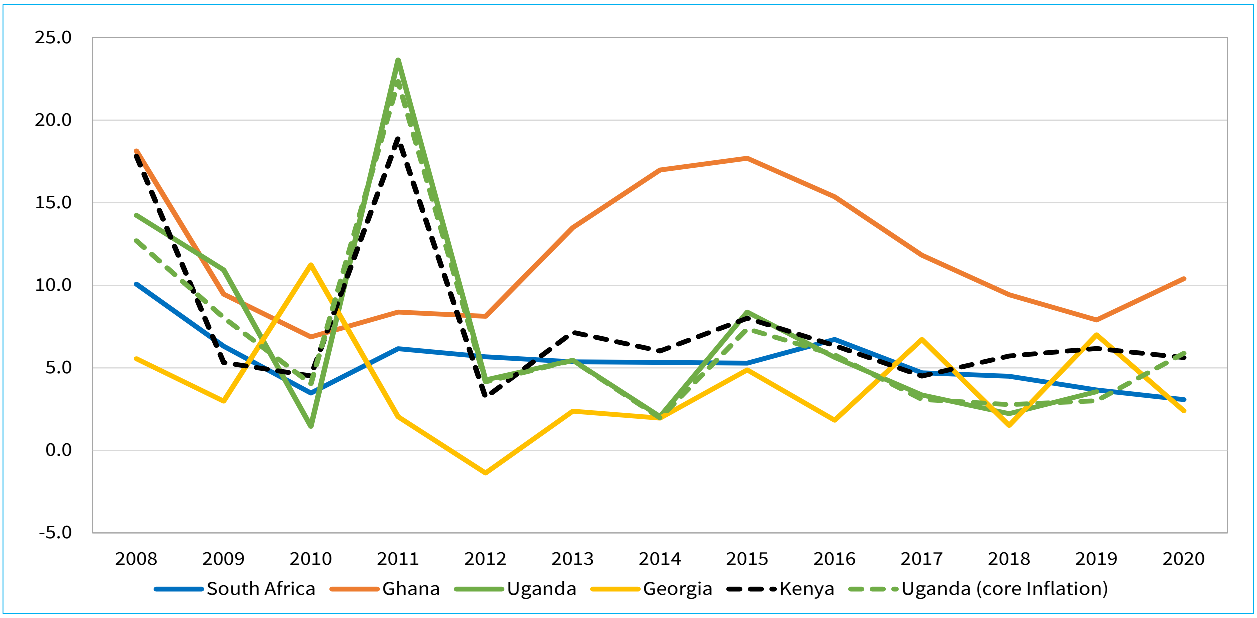
Source: Central Bank of Kenya

Figure 3: Currency Outside Banks as a Ratio of Reserve Money and Broad Money, M3



Source: Central Bank of Kenya

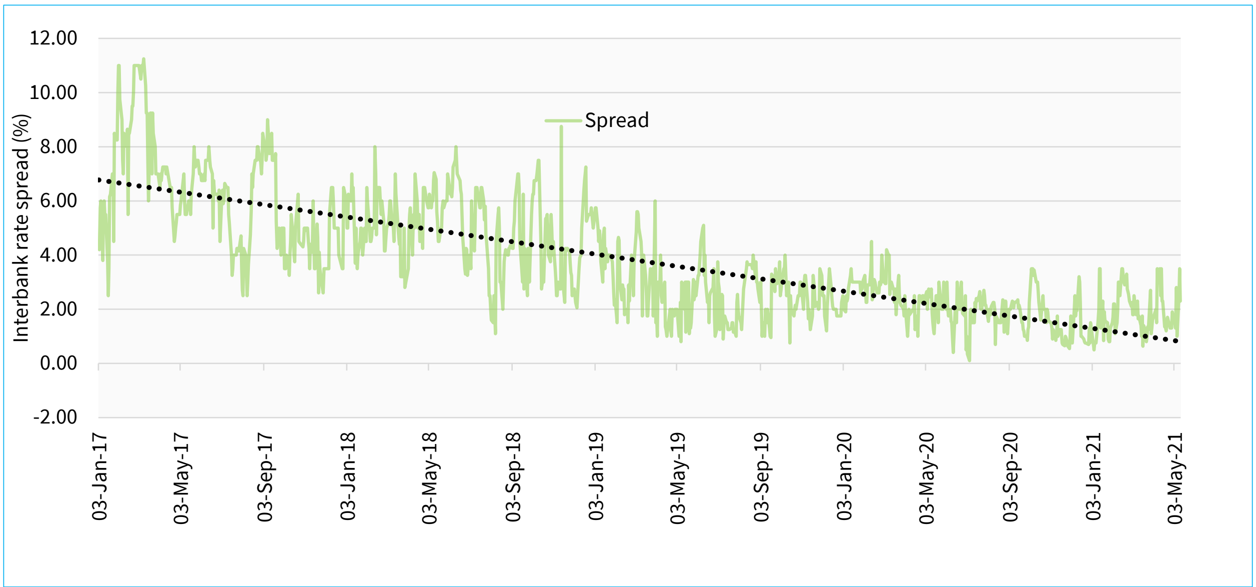
Figure 4: Inflation in Selected Peer countries, end of period (Percent)



Source: Various Central Bank Websites

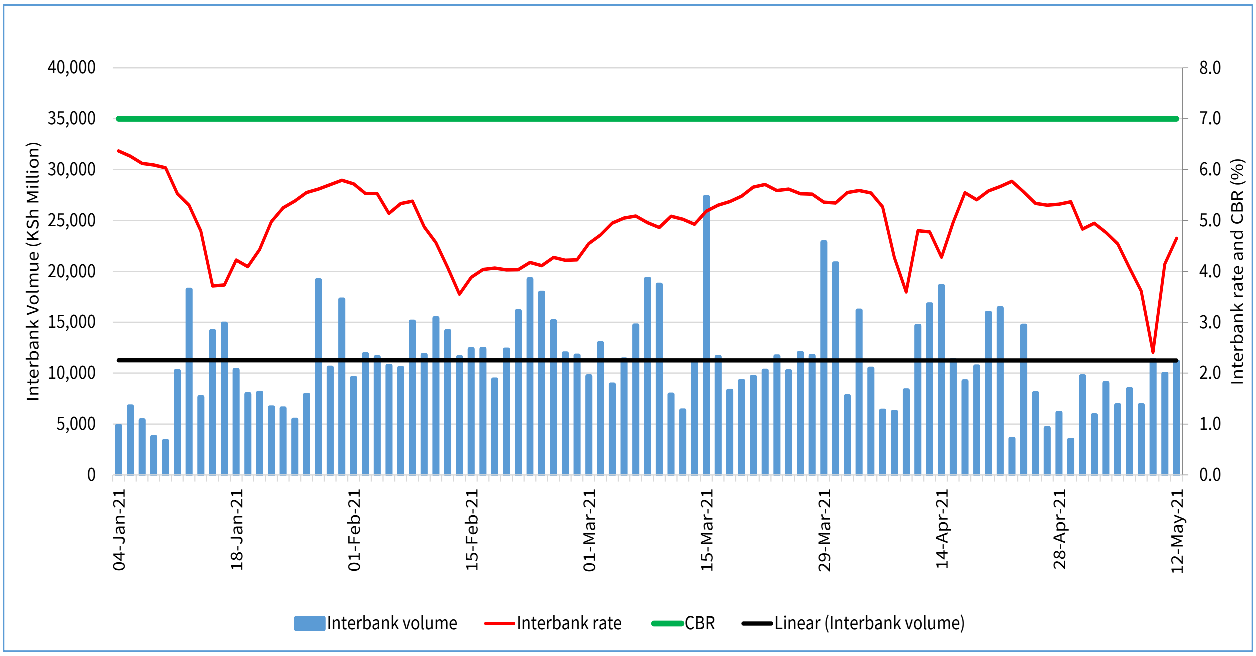
Figure 5: Interbank market

Spreads have continued to narrow



Source: Central Bank of Kenya

The interbank market has remained vibrant



Source: Central Bank of Kenya

Appendix 4: Features of Forward-looking Monetary Policy Framework

1. **A forward-looking monetary policy framework (inflation targeting) is a strategy that communicates a numerical target for the level of inflation over a specified period, with an objective of anchoring long-term inflation expectations.** The strategy requires the central bank to commit to a numerical range or point for inflation and institutionalises its commitment through emphasis on transparency, communication and accountability for outcomes. The distinguishing features of the framework are summarised in **Table 1.**

Table 1: Differences between inflation targeting and monetary aggregate targeting

	Inflation Targeting	Monetary Targeting
Primary objective	Inflation	Inflation
Operating target	Short term interest rate e.g interbank rate	Reserve money
Intermediate target	Inflation forecast	Broad money
Communication	Integral	Minimal

2. **Under the forward-looking framework, the policy rate (CBR) is used to signal monetary policy stance.** The CBR is formulated using a Taylor rule that is inbuilt in the FPAS, with monetary policy responding to both deviations in the inflation forecast from target and in output from its potential. The Taylor rule is the basis for the interest rate setting behaviour by central banks that have some autonomy over monetary policy.

$$i_t = \pi_t + r^* + \gamma_1(\pi_t - \pi^*) + \gamma_2(y_t - y^*) + \mu_t$$

Where i_t is the nominal policy rate (in Kenya this is CBR);

- r^* is the equilibrium real interest rate;
- π_t-π^* is the deviation of inflation rate from the target;
- y_t-y^* is the output gap, computed as percentage deviation of real GDP from its estimated potential and γ_1 and γ_2 are coefficients expected to take a positive sign;
- μt is the discretion variable, which is meant to cater for shocks and any other considerations or concerns to the MPC.

3. **Operational target in the inflation targeting regime is a short-term interest rate.** In the inflation targeting framework, a short-term interest rate, usually the interbank rate, is the operational target as opposed to the reserve money in monetary targeting framework. The short-term rate is expected to signal the monetary policy stance while coordinating medium to long term rates with a view to changing the behavior of economic agents in response to the desired monetary policy direction/stance. An efficient interbank market is critical in ensuring effective transmission of monetary policy signals.

4. **Intermediate target in the inflation targeting regime is the inflation forecast.** In this regime, inflation forecast is the intermediate target in contrast to broad money in the monetary targeting framework. Different jurisdictions use varying definitions of the intermediate target. In some cases, where overall inflation is largely influenced by food and energy prices, the choice of a measure of core inflation is appropriate.

5. Inflation targeting calls for a clear monetary policy communications strategy. The main elements of an inflation targeting framework include: the public announcement of medium-term numerical target for inflation; an institutional commitment to price stability as the primary goal of monetary policy, in which case, a flexible exchange rate and an independent central bank is critical; and an enhanced communication strategy that is easily understood by the market participants and the public. It should however be noted that the role of communication is amplified under an inflation targeting framework so as to effectively anchor expectations of economic agents around monetary policy direction and actions and for transparency and accountability of central bank in attainment of the inflation objective.

Appendix 5: IMF Technical Assistance Report Recommendations and CBK Assessment

	Recommendations by the IMF	CBK Action
	Monetary Policy Decision Process	
1.	Extend the universe of satellite models to increase the information content of inflation forecasts.	Included: CBK continues to diversify forecasting tools as complementary input to FPAS.
2.	Use different methods to estimate unobservable variables (e.g., potential output and equilibrium interest rates) to cross-check current estimates.	Included: Use of alternative approaches with theoretical foundations important for establishing causal relationships.
3.	Develop a methodology to assess macroeconomic forecast quality.	Included: CBK continues to enhance the quality of forecasts to minimise the forecast errors
4.	Determine inflation and real GDP expectation at two- and five-year horizons, as well as policy rate expectation, by expanding the Market Perception Survey.	Already implemented except expectations on the policy rate. • Inflation expectation captured at two-month, one-year and two-year horizons. • Growth expectation captured between one-and five-year horizons. • Expectations on the policy rate is currently not captured as this could bias the MPC decisions.
5.	Introduce a household perception survey on inflation and economic activity, with a breakdown by demographic category.	CBK could consider collaborating with KNBS on this survey. There is commitment in the White Paper to broaden coverage of MPC perception surveys.
6.	Propose to the MPC a baseline interest rate path that is consistent with inflation converging on its target; include alternative scenario.	Already implemented as a component of output and inflation presentation.
7.	Test the sensitivity of the baseline interest rate path using different monetary policy rules.	Included: CBK will continue to diversify analytical tools.
8.	Materials prepared for MPC policy decisions should be narrow in focus; other matters (e.g., those on financial stability, external account, financial sector developments) should be left for other occasions.	The current MPC presentations on developments and outlook for banking sector, external and financial markets are critical in the assessment of the economy and monetary policy decision process.
9.	Focus the monetary policy communiqué on inflation, the growth outlook (and risks to it), and reasons for policy decisions.	The current length of the MPC communiqué is appropriate as it caters for different segments of the population with unique information requirements.
	Monetary Policy Transmission	
10.	Stabilise the short-term rates close to the policy rate.	Included: This will enhance transmission of monetary policy after the completion of other reforms such as the implementation of the CSD.
11.	Establish the three basic principles of variable interest rate loans (transparent reference rates, fixed contract resetting periods, and fixed risk premia).	Various measures already introduced, including banking sector charter and risk-based loan pricing.
12.	Publish a trimmed average of overnight interbank rates, which would serve as the CBK's operational target.	Included: Use of a trimmed mean to eliminate the influence of outliers in the calculation of the interbank rate would provide a more balanced representation of an operational target.
13.	Provide a menu of IOSCO-compliant reference rates (continuously updated) to use as yardsticks for banks to price variable rate loans.	Various measures already introduced, including banking sector charter and risk-based loan pricing.
14.	Act as a catalyst to developing the repo market, including by working with the Central Security Depository (CSD) to ensure effective transfer of collateral ownership, harmonisation of contractual documentation based on international standards, and improved enforceability of contracts.	Included: The CSD is being developed by the CBK to enhance the functioning of the interbank market.

	Recommendations by the IMF	CBK Action
	Monetary Policy Implementation	
15.	Formalise MPMC's mandate to keep short-term rates close to the policy rate (with continued accountability to the MPC.	Included: This is implied under a forward-looking monetary policy framework with interbank rate as an operating target.
16.	Conduct weekly Open Market Operations (OMO) via the collection of fixed-term deposits with a maturity of one week on a fixed-rate, full-allotment basis to steer short-term rates close to the policy rate.	CBK will begin by adopting a band around the policy rate prior to consideration of OMO actions on full-allotment.
17.	Complement regular OMOs with fine-tuning operations aimed at offsetting unexpected autonomous factors' shocks.	
18.	Enhance the liquidity monitoring and forecasting framework with greater coordination with the Treasury, improved projections of currency in circulation, and regular reviews of forecast accuracy.	Already implemented: CBK continues to collaborate with the National Treasury on projections of government flows.
19.	Publish regular information on liquidity conditions, including a weekly liquidity forecast and daily liquidity conditions data.	CBK has continued to strengthen liquidity forecasts, in particular Government operations in collaboration with the National Treasury.
20.	Calibrate the reserve requirement to ensure enough demand for open market operations based on medium-term liquidity forecasts	CBK will continue to strengthen liquidity forecasting over a longer horizon.
21.	Allow full averaging and the remuneration of the local currency reserve requirement to smooth the effect of short-term autonomous factor swings on short-term rates.	The focus by CBK is on reforms in the liquidity market before removing the daily minimum. CBK also considers harmonisation initiatives under the EAC. Remuneration of the local currency reserve requirement will be expensive for the CBK and may be counterproductive to OMO actions.
22.	Allow the reserve requirement on foreign currency deposits to be fulfilled with foreign currency reserves at the CBK.	CBK and other EAC central banks computes reserve requirement based on the banks' total local and foreign currency deposit liabilities.
23.	Align monetary policy meetings, maintenance periods, and open market operations scheduling to avoid policy rate changes within a maintenance period.	MPC meetings schedule is consistent with availability of up to date data.
24.	Introduce symmetric, unconditional, unlimited overnight standing deposit and credit facilities.	CBK has included a proposal on introducing a band around the CBR to anchor interbank rate. This is important for monetary policy signaling and transmission.

Appendix 6: Summary of Monetary Policy Transmission Channels

Monetary policy decisions are simultaneously transmitted to the economy through various monetary policy transmission channels **(Mishkin, 1996)**. Six monetary policy transmission channels have been identified in the literature, namely, interest rate, exchange rate, bank lending, asset prices, expectations and risk-taking channels of monetary policy transmission. Previous studies show the interest rate, exchange rate and bank lending channels to be relatively stronger in Kenya. Below, we provide a brief description of the three channels.

1. **Interest rate channel:** In this case, policy rate changes are transmitted through prices in which case a change in CBR is expected to signal short term interest rates, which in turn should influence lending interest rates. For instance, if CBR is reduced, the short term rates are expected to also reduce which should lead to reduction in lending rates. Consequently, with reduced cost of capital, a rise in investment and consumption expenditures is expected, which will in turn lead to increase in aggregate demand and prices.

2. **Exchange rate channel:** Under this channel, monetary policy transmission works through the effect of exchange rate on net exports. In this case, a fall in CBR leads to increased attractiveness of foreign denominated deposits compared to deposits denominated in local currency leading to a fall in the value of domestic currency relative to other currency deposits. The lower value of the local currency makes domestic goods cheaper compared to foreign goods hence inducing increased demand for local goods (exports) which increases net exports and aggregate demand.

3. **Bank lending channel:** Under this channel, it is assumed that banks play a special role in the financial system and are especially well suited to solve information asymmetry in credit markets. Thus certain borrowers will not access credit markets unless they borrow from banks. So long as there is no perfect substitutability between bank deposits and other sources of funds, the channel operates through quantity of loans. Thus, expansionary monetary policy (decrease in CBR) increases bank reserves and bank deposits leading to increase in bank loans available. Considering the special role of banks in providing loans to classes of bank borrowers, the increase in loans available will lead to increased investment and consumption expenditures and thus increase in aggregate demand and prices.

Central Bank of Kenya

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