

Financial market development, monetary policy and financial stability in emerging market economies

South African Reserve Bank

Abstract

The South African financial market remains deep and liquid, allowing for effective monetary policy implementation through a classical cash reserve system where the money market shortage is refinanced via repurchase operations. This has further facilitated the monitoring of both interest rate and inflation expectations through particular market indicators. The inflation targeting regime has helped to mitigate the impact of swings in the exchange rate on monetary policy, thus allowing the South African Reserve Bank (SARB) to refrain from active intervention in the foreign exchange market. Over the past decade, the domestic financial sector has remained resilient, despite increased financial stability risks emanating from heightened uncertainty around global and domestic economic policy. Policy options available to deal with financial stability risks include the standard macroeconomic and structural policies, macroprudential policies, as well as capital flow management measures. However, EMEs' monetary policy implementation and transmission may be affected by big techs' forays into finance.

JEL classification: E42, E43, E44, E52, E58, F31, G01, G23.

Keywords: inflation, interest rates, monetary policy, market development.

The impact of financial market developments (FMD) on monetary policy

Recent financial market developments (FMD) have not changed the way in which South Africa implements its monetary policy. With regards to the operational target and monetary policy instruments, some major changes occurred a number of years prior to the global financial crisis (GFC) when the country adopted an inflation targeting regime (IT). South Africa announced its intention to adopt an IT framework in August 1999 and formally introduced IT in February 2000, and has targeted inflation within a range of 3– 6% since. At present, the SARB is reviewing its monetary policy implementation framework to enhance its effectiveness and appropriateness. The SARB is considering whether its operational target should be changed from a money market shortage to a short-term money market interest rate. The SARB has also undertaken to reform benchmark interest rates to promote efficient pricing in the domestic financial markets and more effective implementation of monetary policy.

The monetary policy implementation framework that gives effect to the SARB's inflation mandate has evolved from variations of a discount facility to a repurchase rate repo-based financing system. The SARB follows a classical cash reserve system, whereby it creates a money market shortage by levying a cash reserve requirement on banks to influence the credit channel of monetary policy transmission.

In addition, various open market operation tools are utilised to maintain this shortage at a particular level. Currently, the size of the shortage is maintained at ZAR 56 billion¹ and is expected to impact commercial banks' cost of funding and their ability to extend credit. Banks refinance the shortage at the weekly seven-day repurchase auction with the central bank, conducted at the policy (repo) rate as determined by the Monetary Policy Committee (MPC). The SARB lends funds to banks against eligible collateral, which comprises assets that qualify as statutory liquid assets.

A range of open market operations are conducted by the SARB on a daily basis to manage liquidity in the market – such as the issuance of SARB debentures, reverse repos, the movement of public sector funds between the market and the SARB and conducting money market swaps in the foreign exchange market. In addition, the SARB offers a range of end-of-day facilities for banks to square off the daily positions on their settlement accounts. These include access to their cash reserve balances held with the SARB, supplementary repos/reverse repos conducted at the repo rate and an automated standing facility, where 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.² Well-developed financial markets allow for the effective and efficient implementation of monetary policy.

¹ During the Covid-19 crisis, the SARB allowed this shortage to evolve into a surplus position, in order to manage strains that appeared in various funding markets.

² The Standing Facility rates were amended to repo and repo less 200 basis points during the liquidity provision measures implemented during the Covid-19 crisis.

How has FMD affected monetary policy transmission?

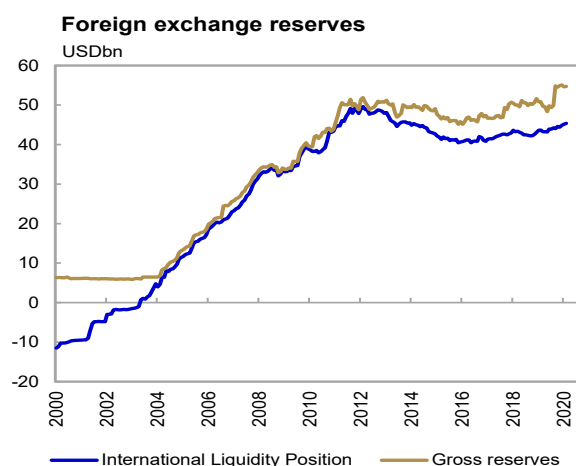
FMD has led to changes in the regulatory environment, which in turn has affected the transmission of monetary policy. After the GFC, South Africa changed its prudential regulations to ensure that banks were adequately capitalised and had adequate liquidity. These changes, as well as risk modelling requirements, have affected banks' cost of funding. Lending spreads imposed by banks have increased, while many banks have become more risk-averse in their extension of credit.

While these changes are believed to have influenced the transmission of monetary policy through the banking sector to the broad economy, the full extent of this impact is unclear. There are some indications that bank funding costs have increased and lending spreads have risen, to the extent that credit conditions could be tightening independently of monetary policy. Previously, such a tightening would have weakened the transmission of monetary policy, particularly during periods when the policy rate was reduced.

Other important FMD relates to the fluctuations in sentiment towards EMEs and the associated volatility in capital flows, which has led to large swings in EME currencies at times. Unlike other EMEs, which have made more active use of FX interventions to manage volatility in exchange rates and capital flows, the SARB's participation in FX markets remains limited to the accumulation of foreign reserves without seeking to affect the level of the exchange rate. In this regard, South Africa has gradually increased its official FX reserves from a negative net open foreign currency position of US\$ 26 billion in the late 1990s to US\$ 53.0 billion in April 2020 (Graph 1).

International liquidity position and gross reserves

Graph 1



Sources: SARB

Historically, emerging markets have experienced high pass-through from exchange rate movements to inflation. In South Africa, as in peer countries, the inflation-targeting regime has worked to lower the pass-through, with the inflation target replacing the exchange rate as the nominal anchor. In the 2011–16 period, inflation expectations were relatively stable, despite the rand's sustained depreciation. More recently, monetary policy has sought to steer expectations closer to the 4.5%

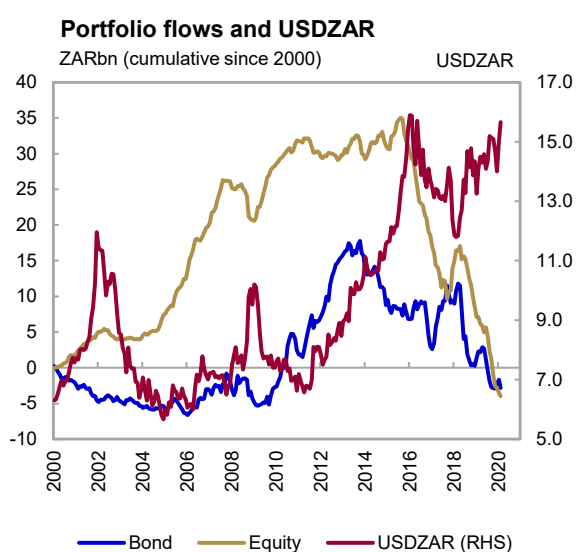
midpoint of the 3–6% inflation target range. The success of this initiative has allowed the SARB to lower the policy rate recently, despite the large depreciation in the exchange rate.

On occasion, there has been increased participation by non-resident investors in the local currency EME bond markets. This has been made possible by the increased liquidity and depth of the local currency bond market and, in the case of South Africa, by the inclusion in various global bond indices. Greater participation by non-residents in emerging markets can have a significant influence on the exchange rate, as non-residents prefer to buy or sell local currency bonds in large quantities. The longer end of South Africa's yield curve has been influenced largely by the sharp increase in government's funding requirements alongside heightened risk aversion across financial markets. As a result, the spread between short- and long-term borrowing costs is at a historically elevated level.

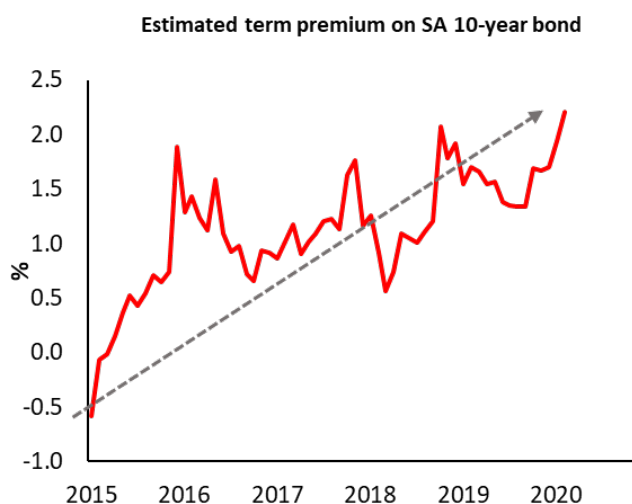
Has FMD limited or amplified monetary policy autonomy and foreign monetary policy spillovers?

Monetary policy autonomy in South Africa has been supported by well-developed fixed-income and money markets, as well as deep and liquid foreign exchange markets. South Africa's financial system is large relative to the size of the economy. A well-functioning financial system facilitates the influence of changes in the policy rate on aggregate demand and on the level of prices in the economy.

While monetary policy autonomy is enhanced by well-developed financial markets, in small open economies, particularly in those with significant foreign financing requirements, global developments will affect domestic policy decisions. For example, widening interest rate differentials in favour of the US dollar may place pressure on local authorities to tighten monetary policy. Equally, easier financial conditions in advanced economies (AEs) may provide greater leeway for EMEs to relax policy. However, while international factors matter, they do not dictate local policy choices. This is why the SARB has been able to move in the opposite direction to global interest rates, on some occasions. This was the case, for example, when the SARB reduced the repo rate by 25 basis points in 2017 and by a further 25 basis points in March 2018, even though the Federal Reserve had raised interest rates during this period. At the time, the SARB's decision was largely influenced by an improved domestic inflation outlook and constrained economic growth prospects. Other important factors include the perceptions of foreign investors and lenders. Investors have increasingly sought to differentiate between EMEs. For example, while South Africa has sophisticated financial markets, the increased fragility of state-owned enterprises and the related credit risks for the sovereign have affected portfolio flows into South Africa (Graph 2) and driven up the South African term premium (Graph 3).



Sources: Bloomberg



Sources: Bloomberg and SARB.

Has FMD yielded useful indicators for calibrating policy?

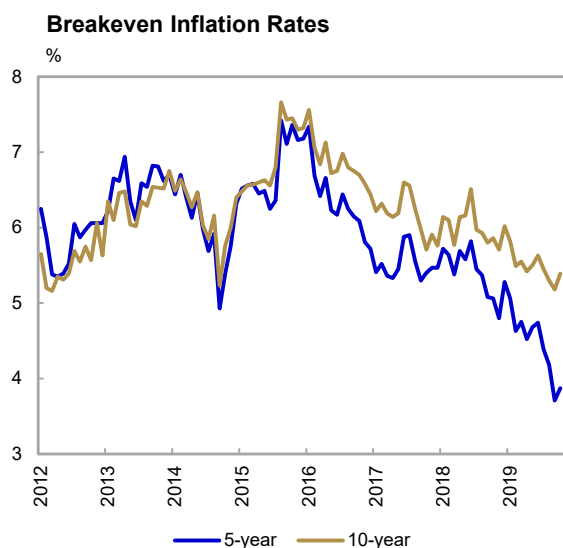
FMD has allowed for the trading of forward rate agreements (FRAs), which are over-the-counter contracts used to fix a certain interest rate, either on borrowing or lending for some future period. The assumption underlying the contract is that borrowing or lending is benchmarked against the three-month Johannesburg Interbank Average Rate (Jibar), and is typically used to take a speculative view on

domestic future interest rates. While FRAs are not used in calibrating monetary policy per se, they allow policymakers to assess markets' expectations of interest rates in one-, three- and six-month onwards time periods.

Apart from FRAs, South Africa introduced inflation-linked bonds (ILBs) in the 1999/2000 financial year as part of the active debt management strategy undertaken by the National Treasury. The development of the ILB market has allowed for market-based inflation expectations to be measured via breakeven rates, that is, the difference between the yield of a nominal (vanilla) bond and an ILB of the same maturity. Government issues ILBs to diversify its funding base and benefit from inflation targeting. Since the introduction of inflation targeting, the ILB market has grown to approximately ZAR 369 billion. The attraction of these bonds is the relative certainty of cash flows, notwithstanding that the real return earned by an investor over the life of the bond is dependent on the inflation rate. Currently, the maturity of ILBs ranges from two years to 50 years (Graph 4).

South African breakeven inflation rates

Graph 4



Sources: Bloomberg

How has FMD affected monetary policy communication?

South Africa has comparatively deep and sophisticated financial markets for an emerging market economy (EME), which has facilitated the relatively smooth functioning of an inflation-targeting regime that is now almost two decades old.

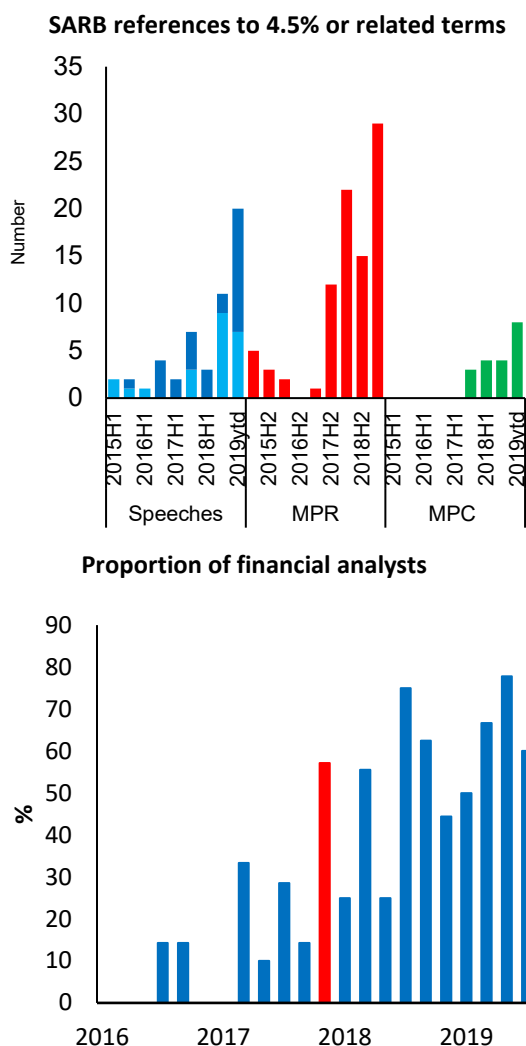
Over this period, the SARB has developed and refined its tools for communicating its policies to the public, which has helped monetary policy achieve its goals with less interest rate volatility, and therefore less output volatility, than had been the case previously. With attentive and responsive financial market participants, central bank communication is a powerful policy tool.

Since 2017, the MPC has undertaken a strategic initiative to lower inflation to around 4.5% – the midpoint of the official 3–6% target range. Prior to 2017, there

was no explicit guidance on how the public should interpret a 3–6% target range, and the upper bound of the range (6%) was widely interpreted as the de facto target. Clear communication has helped to lower inflation expectations without the SARB having to raise interest rates. This message has been conveyed through a range of channels, including speeches, investor engagements, MPC statements and the *Monetary Policy Review*.³

How the South African Reserve Bank’s 4.5% preference diffused to analysts and the media

Graph 5



Sources: Monetary Policy Review, October 2019

During this period, the MPC statements have become shorter and more forward-looking. These statements are now published together with tables detailing major forecast inputs, including the interest rate path used for these projections. This

³ The charts in Graph 5 of this note were taken from SARB, *Monetary Policy Review*, Box 2, October 2019, p 8.

has enhanced transparency about the SARB's decisions and, as a result, improved public understanding of the MPC's reaction function.

The biannual *Monetary Policy Review* has also evolved to be more accessible and engaging for its readership. It is now shorter and written in a more straightforward language, and no longer attempts to provide comprehensive coverage of the inflation data in cases where such detail is not material for policy decisions.

Impact of FMD on financial stability

Has the development of domestic financial markets improved banking system stability and reduced financial stability risks arising from households and firms? Has FMD fostered shadow banking?

FMD have not significantly changed the degree of financial stability in South Africa during the last decade. South Africa's financial system is facing a challenging environment of low economic growth and deteriorating fiscal conditions, but it remains resilient, largely characterised by a robust financial infrastructure and strong regulatory and supervisory frameworks. The SARB has put in place a comprehensive regulatory framework, which has ensured that financial firms have substantial capital and liquidity buffers to absorb shocks. Disruptions caused by Covid-19 are exacerbating South Africa's long-standing macro-financial conditions.

The domestic banking sector-sovereign nexus is a current threat to financial stability due to the government's large and increasing financing requirements. Sovereign exposures account for more than 15% of total banking sector assets, having roughly doubled over the past 12 years. In this regard, three key risks to financial stability have been identified. First, rising fiscal risks are placing upward pressure on borrowing costs across the economy, potentially exacerbating the effects of Covid-19. Second, the capacity of the government to provide a backstop to the banking sector is limited, which could make the sector more vulnerable to contagion. Third, the fiscal deficit for the current year is the largest in a century and will need to be reduced considerably over the medium term. This fiscal adjustment could impair the country's economic recovery from Covid-19.

However, the complete implementation of Basel III reforms in January 2019 has enhanced the capital and liquidity buffers in the financial sector, providing banks with greater scope to absorb shocks and to avoid procyclical tightening of credit provision during adverse shocks. More recent reforms are expected to help stabilise the banking sector in the face of adverse shocks. First, the Financial Sector Regulation Act 9 of 2017 has provided the SARB with additional legal powers to reduce the financial stability risks posed by financial institutions that are systemically important. In June 2019, the SARB finalised and published its methodology to determine whether a bank is systemically important. Second, the SARB assisted the National Treasury with the finalisation of the Financial Sector Laws Amendment Bill (FSLAB) for submission to Parliament. The FSLAB will make the SARB the resolution authority for designated institutions, which include banks and non-banks. The SARB's responsibilities will include dealing with failing designated institutions and developing resolution plans for all designated institutions, whether or not they face an imminent risk of failure. Third, the SARB is currently in the process of establishing a deposit insurance scheme for South Africa. Its key objectives include protecting less financially sophisticated

depositors when a bank fails and enhancing the financial safety net, thereby contributing to the protection and enhancement of financial stability in South Africa.

The stability of the domestic banking system was bolstered by the Basel III reforms. (The framework was revised in December 2017 with some additional requirements that will be transitionally phased in up until 2028.) These reforms have strengthened the banking regulatory framework by (i) increasing the amount and quality of regulatory capital; (ii) enhancing the risk coverage of the regulatory framework; (iii) introducing a leverage ratio as a backstop; (iv) introducing minimum liquidity standards; and (v) introducing additional capital buffers for systemically important institutions. These reforms have also led to improved risk management practices and increased demand for government bonds from the banking sector due to the minimum Liquidity Coverage Ratio (LCR) requirement.

In South Africa, 90% of trading on the domestic bond market is in government bonds. There has also been trade in the primary and secondary corporate bond markets. South Africa's well developed financial system is dominated by a small number of large financial conglomerates and a high degree of interconnectedness. From a supervisory perspective, systemic risk is concentrated in a few financial conglomerates.

With regard to non-bank financial intermediaries, South Africa's banking sector receives a relatively large share of its funding from other financial institutions (OFIs). The OFIs that have exposure to banks, or that invest in banks' assets, include money market funds and other investment funds, and finance companies. In 2018, domestic exposures to OFIs were 1.8% of total bank assets whereas South African banks' use of OFI funding was more than 12.81% of total bank assets.

Notably, OFI assets have been growing at a faster pace than banks' assets since the GFC, and in June 2019, the share of financial assets held by OFIs increased to 18% of total financial assets. Conversely, banks' share of total financial assets fell over the same period, but has remained relatively stable at around 30% since 2015.

How has FMD affected external positions in different sectors? Has this changed risk-sharing between EME borrowers and foreign investors? Has FMD helped EMEs to overcome the original sin, and if so, how?

Easy financing conditions, ultra-low interest rates in AEs and the search for yield has resulted in an increase in FX borrowing in EMEs. This has created new vulnerabilities, including exchange rate and maturity mismatches for sovereign borrowers. However, in South Africa, sovereign debt remains largely denominated in local currency, and amounted to 90% of total debt at the end of the 2019/20 fiscal year. Non-residents' participation in local currency debt has increased since 2000, from around 10% to approximately 34% at the end of March 2020. As a result, South Africa is vulnerable to a sudden stop/reversal in capital flows given the significant participation of non-residents in the local currency bond market. Indeed, as South Africa's sovereign credit rating was downgraded to sub-investment grade in April 2020 by Moody's, and the country was removed from the WGBI, there were significant capital outflows recorded in the government bond market by non-residents.

With regard to the currency market, the increased foreign participation in the South African FX market has enhanced liquidity and depth, with 70% of the rand being traded offshore. Liquid market conditions facilitate new price discovery in the domestic market, making it easier for various market participants to hedge their exposures. South Africa has embarked on a gradual phasing-out of capital controls

to encourage competition and integration, which has also attracted interest from foreign investors. In the 2020 Budget speech, the Minister of Finance announced substantial changes to South Africa's capital flow management framework. These changes involve a shift from the current negative bias framework, in which all foreign FX transactions are prohibited except those included in the Currency and Exchanges Manual for Authorised Dealers, to a positive bias framework, in which all cross-border transactions are allowed, with the exception of a short list of exclusions aimed at preserving financial stability and combating illicit financial flows.

The BIS 2019 Triennial Central Bank Survey highlighted increases in turnover data across all FX derivative instruments used for hedging purposes. Turnover in the rand FX spot market also increased to US\$ 27 billion in 2019, from US\$ 16 billion in 2016. In terms of turnover in the spot and derivatives markets, the position of the rand improved to 18th in the world in 2019, from 20th in 2016, surpassing the Turkish lira and the Brazilian real. The domestic markets have shown resilience due to technological advances and a diverse investor base.

What are the policy options to mitigate changed financial stability risks? How effective are macroprudential policies and capital flow management measures? Can the development of benchmark bonds help the growth of local currency bond issues and increase resilience?

The SARB subscribes to the view that the policy options available to deal with changing financial stability risks due to FMD, specifically capital flow volatility, include standard macroeconomic and structural policies, macroprudential policies and capital flow management measures. The SARB has opted not to intervene in the FX market in recent years, except to gradually accumulate reserves. Therefore, the aim of the macroeconomic framework is for the exchange rate to act as the primary shock absorber in the event of a capital flow shock.

Compared to its EME peers, South Africa already has a reasonably deep and broad-based domestic investor base and capital markets. A particular strength of the economy is its positive net international investment position and large holdings of foreign currency-denominated financial assets. This means that capital flow shocks and associated depreciations of the currency inflate the local currency value of these foreign assets. Meanwhile, the capital flow management framework, which sets limits on the foreign share of assets held by institutional investors, encourages the repatriation of capital into the domestic economy at times when the exchange rate is depreciating.

The SARB's macroprudential policy framework is concerned with the use of macroprudential instruments designed to limit various aspects of this risk. Macroprudential policy at the SARB has two broad objectives aimed at limiting systemic risk: first, strengthening the resilience of the financial system to economic downturns and other adverse aggregate shocks, and second, leaning against the financial cycle by limiting the build-up of financial risks to reduce the probability or the magnitude of a financial bust. Systemic risk assessment focuses on identifying both structural and cyclical vulnerabilities within the economy that have the potential to amplify and propagate negative economic shocks to the system. This is achieved by monitoring and assessing indicators of risk and the build-up of imbalances in the system.

The SARB's macroprudential toolkit consists of three sets of tools to address systemic risk. These include (i) standard macroprudential tools; (ii) microprudential and regulatory tools; and (iii) idiosyncratic risk-specific tools. Communication is

viewed as a cross-cutting tool that provides an opportunity for the wider public to understand the purpose and objectives of the macroprudential policy process, while also enhancing the accountability and reputation of policymakers, and strengthening the efficacy of their actions.

The SARB's standard macroprudential toolkit of instruments is a work in progress and includes the countercyclical capital buffer, loan-to-value ratio, debt-to-income limits, leverage ratio, dynamic loan provisioning and liquid asset requirement, as well as the Liquidity Coverage Ratio and Net Stable Funding Ratio. Work is also currently being done using capital flow management measures to deal with risks from capital flow volatility. Macroprudential instruments are useful in mitigating systemic risk arising from excessive credit growth and capital flow management, even if they are not specifically designed to limit or target capital flows. Other macroprudential policies in place include limits on the foreign exposures of banks. Meanwhile, institutional investors have significantly enhanced the resilience of the economy to exchange rate and capital flow movements.

Looking ahead

Which market development would further improve the conduct of monetary policy? Which market developments have the greatest potential for strengthening resilience? What can central banks do to support this development?

To further improve the conduct of monetary policy, and to further develop financial markets, the SARB is currently reviewing existing reference rates and benchmark rates so that they will comply with global standards. This will promote efficient pricing and greater transparency and credibility and support more effective monitoring of conditions in financial markets with the ultimate aim of achieving and maintaining financial stability. Greater transparency will also support the SARB's analyses of monetary policy transmission as well as the monitoring of conditions in financial markets with the ultimate aim of achieving and maintaining financial stability.

One of the most important reference rates in South Africa is the Johannesburg Interbank Average Rate (Jibar) calculated for various maturities up to 12 months, which is also used by commercial banks to price a sizeable portion of their assets and liabilities both on- and off-balance sheet. The current design of Jibar is not aligned with the global standard for financial benchmarks, as it is based on a dwindling component of money market activity, while the calculation methodology could benefit from refinements. Market participants have also emphasised the need for a risk-free yield curve as a benchmark for cash-collateralised derivative contracts.

How might fintech and big tech developments, including large third-party payment companies and global stablecoins, affect monetary policy implementation and transmission? How might the competition or collaboration between fintech firms, big techs and traditional financial companies in funding (eg interbank funding) and lending (eg peer-to-peer lending) markets create new financial stability risks? How could policymakers mitigate these emerging risks while not forgoing benefits from innovation for financial sector development and financial inclusion?

Fintech and big tech developments may have a greater impact on jurisdictions with large underserved, non-served or concentrated markets. The usual modus operandi of fintech players is to address such financial services gaps through innovative solutions. The impact on monetary policy and transmission may be larger if funds are moved from traditional fiat currencies to private digital currencies. This impact may be heightened if domestic regulatory frameworks do not accommodate new digital platforms. Thus, the impact on monetary policy will likely be greater if there are significant shifts from traditional players to big techs, especially if the underlying product is a global stablecoin. New stability risks may arise if the underlying business models are not well understood, or where the reserve holdings of the underlying asset by the global stablecoin issuer reach systemic significance in the domestic context. Whereas traditional players may have assets represented on their balance sheets, non-traditional new players, such as peer-to-peer lending platforms, may adopt other models such as originate-to-distribute models. Such shifts need to be better understood to keep abreast of new risks, such as heightened levels of interconnectedness, concentration risks or new business risks.

Policymakers and regulators need to be proactive, embrace fintech and be on the front foot in understanding emerging innovation. In order to keep abreast of developments, regular market outreach to understand major emerging innovations may assist. EMEs need to remain ahead of the curve in relation to this area before financial payments become a problem. There is, accordingly, a stronger imperative for EMEs than for AEs to issue a central bank digital currency (CBDC). While AEs have the power to shut down or curb big techs, EMEs may be more constrained in this regard.

EMEs' monetary policy implementation and transmission may potentially be threatened by big techs' continued foray into the world of finance. The question around how competition or collaboration between fintech firms, big techs and traditional financial companies in funding and lending markets create new financial stability risks is a pertinent one. As a small open economy, South Africa is already highly susceptible to volatile capital flows, which could be exacerbated by South Africans selling rands for global stablecoins. From a broader EME perspective, the potential for large and volatile capital flows to manifest through the exchange rate channel is of concern, unless it can be agreed internationally that global stablecoin arrangements are required to hold local currency in-country to prevent large currency fluctuations.

The challenge for EME policymakers in particular relates to crafting appropriate policies for big tech firms operating in its jurisdiction, particularly given that the host regulator's legal jurisdiction could be restricted given that the big tech firm may be domiciled elsewhere. This continues to pose a massive challenge to EMEs, which is likely to become even more prominent should a truly global stablecoin be launched. Lastly, while there are various potential benefits that could be derived from global stablecoins in the form of cheaper and more effective remittances (which in turn could enhance financial inclusion), these should be carefully balanced against the potential risk such developments could pose for smaller economies.

Conclusion

South Africa's financial markets are deep and liquid, supporting the effective implementation of monetary policy and contributing to financial stability. The floating exchange rate of the rand remains an effective shock absorber, and while it is relatively volatile compared to its EME peers, the inflation targeting regime has worked to lower pass-through, with the inflation target replacing the exchange rate as the nominal anchor. The SARB assesses the effectiveness of its monetary policy implementation framework from time to time, and has determined that there is scope for enhancement. In addition to this, and linked to possible amendments in the implementation framework, the SARB is in the process of reforming its interest rate benchmarks to allow for better transparency and price discovery in the money markets. Such transparency is important for monitoring and improving the effectiveness of monetary policy transmission via the money markets.