CBDCs in emerging market economies

Background

The request to the South African Reserve Bank (SARB) – and indeed all participating EME Deputy Governors – was for a "short paper (5–6 pages) on one or two aspects or questions listed in the draft agenda". While there are multiple questions listed, the five main aspects are as follows:

- Main objectives of introducing CBDCs
- Guiding principles of CBDC design and data governance
- Challenges of CBDCs for monetary policy, financial intermediation and financial stability
- CBDCs and financial inclusion
- Cross-border aspects of CBDCs

Although the SARB's note will touch on all five aspects listed above, particular attention will be paid to our reflections on the objectives of retail CBDCs and the cross-border aspects of CBDCs given the SARB's ongoing feasibility study and its participation in Project Dunbar respectively.

Overview of the SARB's CBDC research and exploration

The SARB has initiated projects in both the wholesale and retail CBDC space.

From a retail or rCBDC perspective, the SARB is continuing its research to practically investigate the feasibility, desirability and appropriateness of a CBDC as electronic legal tender, for general purpose retail use, complementary to cash. The objective of the feasibility study is to consider how the issuance of a general purpose CBDC will feed into the SARB's policy position and mandate. The SARB is working with two vendors to explore the different deployment solutions to unpack and understand the options and considerations for a retail CBDC in South Africa.

On the wholesale or wCBDC side, the SARB is currently finalising the second phase of an initiative called Project Khokha, which explores the technical, policy and regulatory implications of distributed ledger technology (DLT)-driven innovation in South Africa's financial markets. In our first iteration, Project Khokha 1 sought to trial interbank wholesale settlement using DLT, while Project Khokha 2 seeks to issue, clear and settle debentures on DLT using tokenised money. One of the key technical objectives of Project Khokha 2 is to explore interoperability in financial markets with multiple tokenised assets. We expect to publish our report on Project Khokha 2 during the second quarter of 2022. The report will guide the next phase in our strategy and inform our strategic direction in the wCBDC area.

From a regional payments perspective, the SARB currently operates the real-time gross settlement (RTGS) system for the Southern African Development Community (SADC), or SADC-RTGS, which was originally established in part to support and facilitate trade in the region among member countries. The SADC-RTGS is supported by a well-established legal framework primarily based on rules, operating procedures, contractual agreements, laws and regulations. Thus, our experience in operating a centralised platform for settlement of cross-border obligations between participants in the SADC region means that we are well positioned to participate in Project Dunbar.

Project Dunbar brings together the South African Reserve Bank, Reserve Bank of Australia, Central Bank of Malaysia and Monetary Authority of Singapore with the BIS Innovation Hub to test the use of CBDCs for international settlements. In line with this objective of promoting regional trade, cross-border CBDC interoperability and usage from a regional perspective may have the potential to make cross-border payments faster, cheaper and safer, and therefore stimulate trade and economic activity more broadly in the Southern African region. Given the SARB's role in the SADC-RTGS, any considerations around CBDC would necessarily require careful reflection on the potential repercussions from a regional perspective – both positive and negative. What Project Dunbar is usefully highlighting and eliciting debate on at a global level is that there is some form of emerging convergence towards a common appreciation that exploring the potential benefits of a shared, multilateral and multicurrency CBDC (ie mCBDC) is a natural next step on the broader CBDC journey.

Potential advantages of CBDC issuance and SARB views on CBDC

Like many central banks, the SARB's motivation for experimenting with CBDC is based on several factors.

First, we acknowledge that the world is changing. Technology now enables central banks to make central bank money, in particular cash, available in digital form. In order to evolve and continue to provide trusted money to the public in a digitised world, it is important for central banks to explore the feasibility of a CBDC.

Second, notwithstanding South Africa's sophisticated banking and payment systems, it remains a highly unequal society with a large informal sector and unbanked population, with limited access to financial services. In many rural areas, access to bank branches, physical point of sale payment devices or automated teller machines to acquire cash is severely limited. Although the use of technology and increased competition in the provision of payment services has improved financial access in South Africa, there is still much scope for improvement. A CBDC could potentially provide complementary central bank money to the public to support a more resilient and diverse domestic payment system, in a way that deepens financial inclusion for individuals.

Third, from a South African perspective, the exploration of a CBDC has less to do with the fact that the demand for physical cash is declining; indeed, the demand for cash in South Africa continues to grow. Part of our exploration of a CBDC is to consider whether it potentially provides a catalyst for new and innovative solutions that can potentially assist in solving the problems associated with the lack of interoperability between existing closed loop digital payment systems and other payment channels, both public and private, and both domestically and across borders.

At this stage, the SARB is exploring a digital version of cash denominated in the national unit of account that represents a liability on the SARB's balance sheet, no different from actual money or cash. As we continue to explore the feasibility, desirability and appropriateness of a CBDC, we remain cognisant of the related work being done by our National Payment System Department to improve and modernise our payment system in order to follow a holistic and integrated approach.

SARB insights and takeaways from running the SADC-RTGS

One of the main challenges the SARB has faced in operating the SADC-RTGS is how to move from a single currency settlement system in rand (ie all participating central banks have rand accounts with the SARB, and settlement takes place in rand) to an actual multicurrency settlement system. In the SARB's experience of operating the SADC-RTGS, the two key challenges in migrating to a true multicurrency regional settlement system – and which are likely to manifest in a multilateral, multicurrency CBDC arrangement – are: (1) ensuring and maintaining adequate liquidity in several currencies across several borders, with the problem being exacerbated as the number of currencies and jurisdictions involved increases; and (2) answering the key question of how to create a system or solution that does not simply replicate the challenges experienced in the correspondent banking model, ie where the central bank is positioned as the intermediary, similar to the role played by commercial banks in the correspondent banking model, resulting in slow and costly cross-border payments.

Similarly, one of the SARB's key insights from operating the SADC-RTGS is that the establishment of a centralised settlement system with participation from various jurisdictions requires extensive coordination and collaboration to address the various technical, operational, legal and governance challenges. While there is a growing appreciation that the technology can be harnessed to make multilateral, cross-border payment system interoperability feasible, moving from a prototype to an implementable solution requires further work around the various operational, policy and legal elements. Thus, a gradual and systematic approach, with realistic and achievable smaller milestones along the way, allows central banks and other relevant stakeholders and role players to be part of the solution and can lead to greater levels of interoperability from inception.

Through its participation in Project Dunbar, the SARB intends to continue exploring whether DLT could assist in creating an appropriate multilateral platform for solving some of these well recorded challenges, particularly around ensuring appropriate liquidity in all relevant currencies on the multilateral platform, and then exploring how a multilateral platform could provide an appropriate solution for integrating different countries' CBDCs.

Moving fast and not breaking things

Central banks are often asked whether they are moving fast enough, but possibly the question may be "are central banks moving cautiously enough, given the complexity of the issues in a rapidly changing ecosystem"? Given that CBDC generally remains broadly uncharted territory, and mCBDC even more so, coupled with the high stakes involved, proceeding with caution might be the most appropriate, and definitely the most prudent, option. Changes in the payments environment generally take time to implement, thus underscoring the need to get it right the first time, as central banks do not get many opportunities to redo things. As a result, gradual, incremental progress is preferable in the mCBDC context, and Project Dunbar therefore comes at a particularly opportune time to explore mCBDC.

From the SARB's perspective, we agree strongly with the BIS position that money remains a public good, the fundamental supply of which should continue to be controlled by public institutions such as central banks. In the wholesale space, central banks provide a riskless settlement option to financial markets and it should continue to explore how it continues to do so in tokenised markets. Through its ongoing research into and exploration of CBDC, the SARB aims to continue to provide a strong platform on which the private sector can build and innovate.