




Box Article

Digital currencies: A new frontier

Over the past decade, rapid technological innovation and the increasing pace of digitalisation have transformed the payment landscape in Malaysia. Digital payment adoption has accelerated, alongside a more diverse landscape of payment service providers. More recently, digital currencies are gaining traction – typically leveraging on tokenisation and DLT to facilitate P2P transfers without the need for intermediaries (Diagram 1). Central banks are also experimenting with central bank digital currencies (CBDC) – a new form of central bank money that represents a direct liability of the central bank.

Diagram 1:
Comparison of CBDC, stablecoins and non-backed digital assets

	Issued by a sovereign body	Issued by private entities	
	 <p>Central Bank Digital Currencies (CBDC)</p> <ol style="list-style-type: none"> Wholesale CBDC: issued to facilitate settlement between financial institutions Retail CBDC: issued for use by the general public (households and businesses) to facilitate day-to-day transactions 	 <p>Stablecoins (digital assets with value stabilisation mechanism)</p> <ol style="list-style-type: none"> Fiat-backed: value is backed by fiat currency (e.g. Tether) Asset-backed: value is backed by assets such as commodities or crypto-assets (e.g. Dai) Algorithm-based: value is supported by protocols that adjust supply in response to changes in demand (e.g. Terra) 	 <p>Non-backed Digital Assets</p> <ol style="list-style-type: none"> Exchange tokens: used as a means of exchange or for investment (e.g. Bitcoin, Ethereum) Security tokens: may provide rights (e.g. ownership, repayment of a sum of money, or entitlement to future profits) Utility tokens: can be redeemed for access to a specific product or service
Store of value	Value is backed by a sovereign body (e.g. Government, central bank)	Value is backed by assets or is stabilised by controlling the market supply of the stablecoin	No formal backing for its value i.e. subject to market forces
Medium of exchange	Likely to be widely used as a means of payment given that it is a digital representation of fiat currency	May potentially be used as a means of payment subject to effectiveness of value stabilisation mechanism	Not likely to be widely used as a means of payment due to various limitations (e.g. price volatility)
Unit of account	Denominated in fiat currency	May be denominated in fiat currency (for stablecoin backed by fiat currency)	Has its own unit of account

Developments in this space can spur greater efficiency, inclusion, and vibrancy in the payments and financial landscape. Increased competition in the retail payment space may result in lower cost, wider access, and better services. Applications of emerging technologies – such as CBDC, stablecoins, and the broader DLT infrastructure – may also help address longstanding pain points, particularly those in cross-border payments (e.g. high costs, low speed, limited access, and insufficient transparency)¹.

¹ Source: Financial Stability Board (2020), “Enhancing Cross-Border Payments: Stage 1 Assessment Report to the G20”.

CBDC in particular can also serve as a tool to achieve public policy goals, including by advancing financial inclusion, strengthening monetary policy transmission² as well as promoting innovation in payment services. Leveraging its programmable features³, CBDC may also spur other innovations in the way financial transactions are conducted through the use of smart contracts.

While these developments may offer some opportunities to Malaysia, there are attendant risks that need to be managed. Depending on the way it is designed, CBDC issuance may impact monetary policy operations, and amplify operational and cyber risks to the Bank. It may also trigger financial stability risks if there is a significant shift of bank deposits to CBDC.

Likewise, cross-border usage of foreign-currency denominated CBDC (foreign CBDC) and stablecoins may have spillover effects to Malaysia. For instance, widespread adoption of foreign CBDC and stablecoins for payments in Malaysia may heighten currency substitution risk, which may in turn undermine monetary stability. In addition, foreign CBDC and stablecoins may amplify capital flow volatility risk. In times of stress, there may be financial stability implications if there is a flight to foreign CBDC and stablecoins, which may be perceived as a safer alternative store of value. Such risks may materialise if foreign CBDC and stablecoins bypass traditional intermediaries and controls through which foreign exchange measures and other regulatory requirements are typically enforced.

As emerging payment technologies evolve, it is vital for us to be in a state of readiness to capitalise on the opportunities, while mitigating the associated risks. Among others, this includes promoting interoperability between CBDC platforms and existing payment infrastructures to facilitate seamless payment flows, ensuring parity and proportionality to support innovation, and establishing the necessary safeguards, where required.

Keeping in mind these trade-offs, we will adopt a two-pronged strategy:

One, focus on building internal capacity to support informed decisions on CBDC issuance

At the time of this Blueprint's publication, we do not have any immediate plans to issue CBDC. In Malaysia, the financial system continues to support the functioning of the economy, while the existing monetary and financial policy tools continue to be effective in safeguarding monetary and financial stability. Moreover, domestic payment systems – including the RPP – continue to be safe and highly efficient to support the needs of individuals and businesses, and facilitate migration to digital payments.

Nevertheless, we recognise the importance to be proactive in scaling up our internal understanding and capacity on CBDC. This would have two key benefits:

- Greater clarity on the use cases that offer higher upsides for Malaysia, the potential risks and implications to monetary and financial stability arising from CBDC issuance, as well as the appropriate CBDC design and controls to ensure the risks are adequately mitigated; and
- Adequate technical understanding and capacity to build and operate a CBDC platform, should the need to implement one arise in the future.

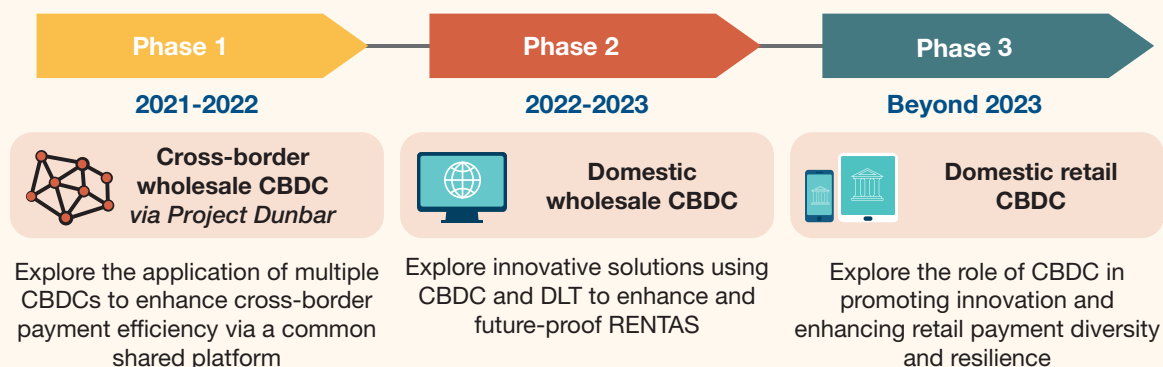
To this end, we have commenced a multi-year CBDC exploration through a POC with three phases (Diagram 2). The POC aims to explore the potential of CBDC to address key problem statements by prioritising use cases that would offer the higher upsides for Malaysia. This will be done collaboratively with the relevant stakeholders, including to facilitate interested industry players to participate in the POC.

² For example, an interest-bearing CBDC may strengthen the monetary policy transmission mechanism.

³ CBDC may be programmed with business logic (e.g. by allowing it to be spent upon fulfilment of certain conditions).

Diagram 2: Malaysia's CBDC proof-of-concept roadmap

A multi-year exploration to assess the potential of CBDC to address gaps in the financial sector and achieve public policy objectives



- Phase 1 (Cross-border wholesale CBDC):** We see the potential of CBDC in addressing the longstanding frictions in cross-border payment arrangements such as low speed, high cost, limited access, and insufficient transparency. By enabling instant settlement, CBDC has the potential to reduce the number of intermediaries and mitigate the need to pre-fund multiple correspondent banking accounts, thus resulting in faster and cheaper cross-border payments. As a highly open economy with trade-to-GDP ratio averaging over 130% since 2010⁴, any improvement in the efficiency of cross-border payments has the potential to create substantial cost savings and productivity gains, thereby strengthening Malaysia's trade competitiveness. In this regard, we have collaborated with the BIS Innovation Hub, Reserve Bank of Australia, Monetary Authority of Singapore, and South African Reserve Bank to test the use of wholesale CBDC for international settlements via a shared platform through Project Dunbar (Diagram 3). The POC, which commenced in September 2021, is envisaged to be completed by March 2022. The interim findings of Project Dunbar have been published on the BIS portal.

Diagram 3: Overview of Project Dunbar



⁴ Source: World Bank

- **Phase 2 (Domestic wholesale CBDC):** This POC will provide us with an opportunity to reimagine and future-proof our domestic wholesale payment system, RENTAS. While RENTAS has been operating at high levels of availability, efficiency and resilience, the application of wholesale CBDC and DLT has the potential to elevate the domestic wholesale payment system to the next level. Some of the potential benefits include reducing the single point of failure risk, enhancing the efficiency of liquidity management, simplifying compliance processes, and enabling new use cases such as the settlement of tokenised assets.
- **Phase 3 (Domestic retail CBDC):** Although we already have an efficient real-time retail payment system – namely, the RPP – we see the potential of retail CBDC in complementing the RPP and serving as a catalyst to spur greater innovation in the financial sector. Besides enhancing payment diversity and resilience, CBDC may introduce a smarter version of central bank money which could support new use cases through its programmable features. By designing it with public interests in mind, an open and flexible CBDC platform may serve as a shared infrastructure upon which private sector innovation may flourish. For instance, CBDC can be programmed to streamline compliance processes and facilitate automatic payment to beneficiaries upon meeting certain pre-defined conditions. Some examples include automated coupon payment upon bond maturity, automatic routing of tax payments to the authorities at point of sale⁵ and automated settlement of vehicle or real estate purchase upon confirmation of the transfer of legal title. Besides lowering transaction costs, this has the potential to mitigate counterparty risk and thereby enhancing financial stability.

Two, evaluate implications of the broader digital currency ecosystem to monetary and financial stability and develop appropriate policy responses

Irrespective of our decision on the issuance of CBDC, the developments in the broader digital currency space, particularly foreign CBDC, stablecoins, and other digital assets, may pose other challenges and risks – some of which were highlighted at the onset of this article.

Beyond assessing the opportunities and risks associated with CBDC issuance by the Bank via the CBDC POC, we will also undertake a holistic assessment of the implications of foreign CBDC, stablecoins, and other digital assets to monetary and financial stability, with the aim to develop appropriate policy responses and strategies. This may include:

- Assessment on implications to monetary policy transmission, financial intermediation, capital flow management, and financial integrity;
- Development of an effective surveillance framework; and
- Strengthening regulatory and supervisory frameworks to mitigate risks without stifling innovation. This may include developing the appropriate regulatory approach to stablecoins and establishing the prudential treatment for digital assets in the financial sector.

Through our involvement in various international fora, we will continue to advocate for international collaboration in developing relevant rules and standards to facilitate interoperability, enhance cooperative oversight, and promote responsible innovation in the digital currency space to mitigate any negative spillovers.

⁵ Source: Bank for International Settlements (2021), “Central Bank Digital Currencies: User Needs and Adoption”.

Being prepared together

In the next five years, we believe that digital currencies will continue to shape the landscape of payment infrastructures. In particular, CBDC – which would be built with public interests in mind – could have the potential to serve as an important infrastructure upon which private sector players may innovate to promote a more efficient, inclusive, and vibrant financial landscape.

While the reach and magnitude of digital currencies' impact remain to be seen, early exploratory efforts will be key to ensure that the financial sector can adapt effectively. We are committed to advancing these efforts for Malaysia, as set out in our two-pronged approach above. Given the complexity and pace of these developments, we welcome and will continue to support broader collaborative efforts in our journey. This includes international cooperation efforts to advance the principles of responsible innovation in the digital currency space, as well as strong public-private collaboration to ensure CBDC infrastructures are well-designed in addressing current pain points and meeting the emerging needs of the economy.