



One drawback of a CBDC is giving a central bank power to observe and control individuals' finances. This would likely raise eyebrows among many proponents of personal freedom.
PHOTO: REUTERS

Centralised money in a decentralised world

Can any of the features of cryptocurrencies – such as the public ledger and its decentralised nature – be incorporated into centralised banking? **BY EMIR HRNJIC AND NIKODEM TOMCZAK**

AT the Singapore Fintech Festival in November last year, Christine Lagarde, managing director of the International Monetary Fund (IMF), called on the world's central banks to consider issuing digital currencies.

Although no central bank has yet done so, many – including those in Sweden, Canada and China, as well as the European Central Bank and the Bank for International Settlements (BIS) – have been carefully studying and experimenting with different distributed ledger technologies (DLT).

According to a recent study by the Cambridge Centre for Alternative Finance, a fifth of central banks will soon be using DLT and more than a third will have active applications within a decade.

IMPACT OF DISTRIBUTED LEDGER TECHNOLOGIES

Traditionally, central banks control the supply of money, administer interbank payment systems, maintain public confidence in the value of national currencies and generally support a nation's economic stability.

Recently, however, the emergence of cryptocurrencies and the underlying DLT have opened up new possibilities for the secure digital transfer of money while other financial innovations are facilitating the establishment of cashless societies.

Bitcoin, the highest profile of the new cryptocurrencies, appeared poised to compete with national currencies and effectively created trust-minimised banking. However, its extreme volatility and low transaction processing capacity have cast doubts on the notion that cryptocurrencies can become a workable medium of exchange.

This leads to the question: can any of the features of cryptocurrencies – such as the public ledger, immutability, and its decentralised nature – be incorporated into centralised banking? If they can, what would be the benefits and costs of a central bank digital currency (CBDC)?

No universal definition of a CBDC exists, but were such a currency to launch, it is generally agreed that it would be a direct liability of the

central bank and should result in wider accessibility to central bank money.

In this context, DLT could support faster, auditable, and in general more transparent interbank settlement systems, while avoiding issues like single point of failure and decreased settlement costs.

A leading advocate for incorporating cryptocurrencies into the central banking system has been Dong He, deputy director of the International Monetary Fund's Monetary and Capital Markets Department. He recently suggested that central banks should adopt some of the concepts from cryptocurrencies to maintain demand for central bank money.

Attitudes from the banks themselves have been somewhat mixed. South Korea's Central Bank, for example, openly opposed issuing a CBDC saying that whilst such a currency could significantly transform the banking system, there are risks associated with "credit, liquidity and legal management" and market stability.

Likewise Australia and New Zealand have both ruled out pursuing a central bank digital currency citing low demand and "significant implications for the bank's financial stability mandate".

MAIN CHALLENGES

A research study by the Bank of England in 2016 examined the risks and benefits of a CBDC and concluded that a properly designed CBDC may actually "strengthen the transmission of monetary policy changes to the real economy" and would not harm the private banking sector. However, the study also warned that any mismanagement of transition from physical to digital cash could pose a major threat to the financial stability.

The main challenges for the introduction of a CBDC stem from potential credit contraction and possible abuse of power.

The head of Germany's Bundesbank, Jens Weidmann, argued that when the economic situation becomes uncertain, existing commercial bank customers would decide to keep their money in the form of a CBDC, since it would be essentially risk-free and more secure than in commercial banks.

This may pose a problem for commercial banks as they would partially lose access to deposits, automatically leading to a sudden and severe contraction of consumer credit harming the real economy.

Alternatively, banks would have to rely on more expensive and risky funds such as issuing securities, which would increase the rates on consumer credits. Either of these scenarios – credit contraction or more expensive credit lines – would risk economic recession or, in extreme cases, the possibility of a bank run.

Another potential drawback of a CBDC is giving a central bank power to observe and control individuals' finances. This would likely raise eyebrows among many proponents of personal freedom.

Furthermore, an effectively centralised ledger could give rise to a corrupt or monopolistic intermediary – the exact issue that cryptocurrencies developers have tried to avoid.

Despite many potential challenges, the Bank of England's study concluded that CBDC issuance "could permanently raise GDP by as much as three per cent . . . could substantially improve the central bank's ability to stabilise the business cycle".

As suitable secure DLTs emerge and countries adopt proper regulatory frameworks, central banks will have to consider issuing their own digital currencies or risk losing relevance in the global market.

Likewise, commercial banks will need to replace deposits with other sources of funding, likely disrupting the current fractional reserve banking system as well.

Any transition from the current system to the new decentralised world of central banks would have to happen without undermining the very primary role of central banks – maintaining trust in money.

■ Emir Hrnjic is a Visiting Senior Research Fellow at the Centre for Asset Management & Research Investment (CAMRI) at National University of Singapore (NUS) Business School. Nikodem Tomczak is a research scientist and adjunct associate professor at NUS. The opinions expressed are the writers' and do not represent the views and opinions of NUS.