Robeco FinTech

As digital currencies rise, banking systems remain very much needed

- Major central banks are considering issuing digital currencies
- Central bank digital currencies could offer important advantages
- But traditional banking systems are still very much needed

Digitalization is everywhere. And money is no exception. While most media attention around digital money has focused on cryptocurrencies – mainly bitcoin – over the past couple of years, other more discreet but equally transformational developments have been taking place in the background. This is the case for so-called central bank digital currencies (CBDCs). The rapid rise of digital finance has pushed many central banks to mull over launching their own digital currencies. In fact, central banks from more than 70 countries, representing the bulk of global GDP, have been or are currently exploring the idea of setting up CBDCs, although a few of them have also decided not to proceed further for the time being.[1] Compared to existing systems of traditional currencies and electronic transfers, CBDCs could offer important advantages, raising the risk of potential disruption for the financial industry.

Article
For professional investors
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Two wakeup calls

Over the past few of years, central banks have received two major wakeup calls regarding digital fiat currencies, which have forced them to start forming an opinion on CBDCs. The first wake-up call came from Facebook's Libra white paper, published in June 2019. At this point, a large tech company with more than three billion users was suddenly considering setting up its own currency, basically threatening the monopoly of central banks on currency issuance. But ultimately, central banks and regulators around the world were able to temporarily fend off this first 'attack' from Facebook, even though the tech giant has come back with a 2.0 version called Diem.

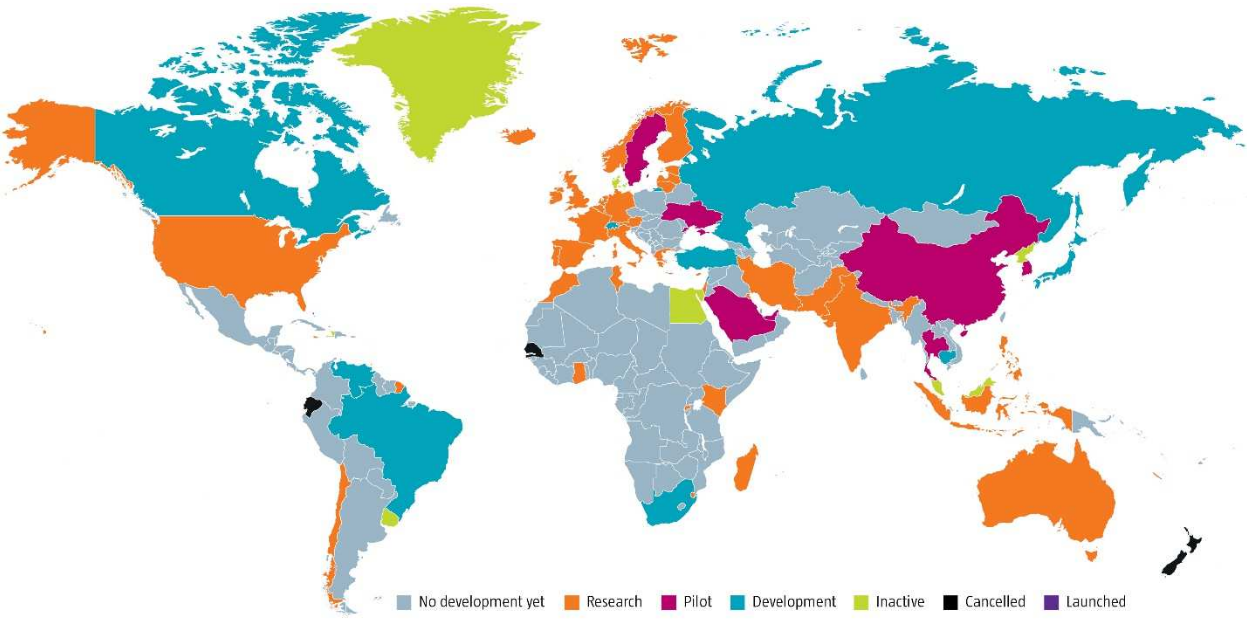
[1] Source: Atlantic Council, April 2021.

The second wakeup call came from the People's Bank of China (PBoC), with its rapid progress regarding the launch of its own CBDC. In April 2020, China started implementing programs to test a digital currency – otherwise known as digital currency electronic payments (DCEP) – in four cities, allowing for transactions such as salary payments to civil servants, payments for public transport services and energy, as well as supply chain trading. These pilot programs were then expanded to other cities in the second half of the year, while the PBoC also expects that some of these facilities will be used during the 2022 Winter Olympics.

Officially, the stated goal of Mainland China's central bank is to replace cash currently in circulation in its economy, as well as other payment means with a more cost-efficient digital version of the yuan. However, the idea that a Chinese CBDC might also be used in an international context to lower the cost of cross-border transactions with improved efficiency, and eventually start competing with other more established currencies, has also raised the alarm in other countries, particularly in the US where the Federal Reserve remains in the early stages of researching a potential CBDC.

Meanwhile, other major central banks, such as the European Central Bank (ECB) and Bank of England (BoE) for example, have already been investigating CBDCs for some time, in an effort to keep their own currencies relevant as international trade and reserve instruments. One key idea behind this research is that currencies such as the euro, Japanese yen or British pound might end up being the ultimate losers at the global level, if both the US and Mainland China are able to fully implement their CBDCs. Figure 1 recapitulates official CBDC initiatives carried out worldwide.

Figure 1 | CBDC developments around the world



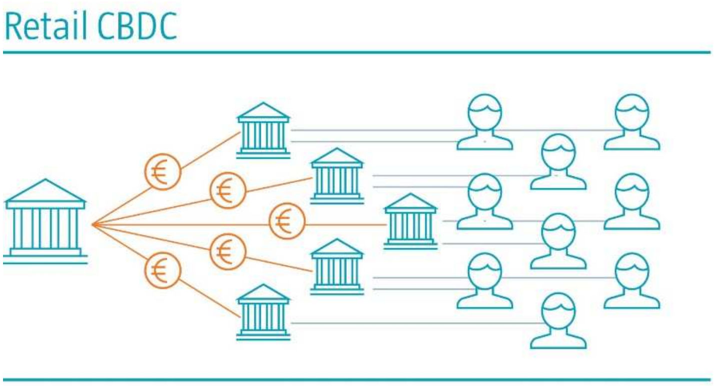
Source: Atlantic Council, Robeco, April 2021.

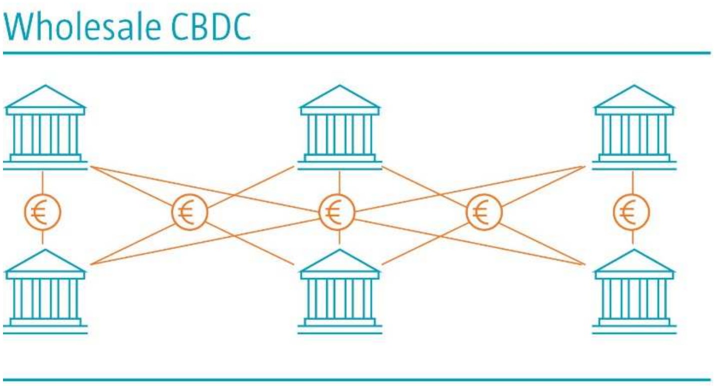
Three reasons to consider CBDCs

For now, most central banks seem to be considering CBDCs mainly as a potential replacement of physical cash as they rethink the overall design of their current monetary frameworks. While existing infrastructures of commercial bank accounts and digital payments systems already provide relatively accessible and cost-efficient financial services in many countries around the world, CBDCs could also offer important advantages for both monetary authorities and ultimate users.

The first reason to consider CBDCs is that they would be a liability of a central bank and would therefore not require any deposit insurance. CBDCs would be issued and maintained by a central bank, which would provide the underlying technical architecture. Commercial bank deposits, on the other hand, are the liability of fallible entities and must be backed by reserves. Meanwhile, banks can use the deposits they receive as they please, within regulatory boundaries. They can, for example, lend them to individuals or companies.

Figure 2 | Two main types of CBDCs





Source: Visa, Robeco.

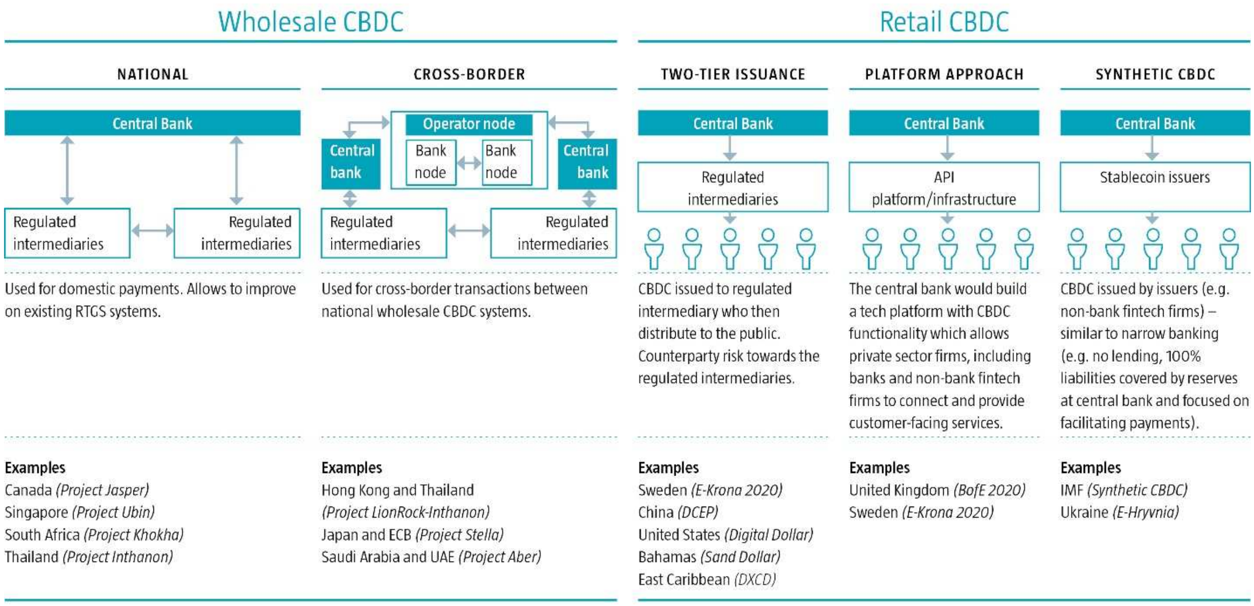
A second important reason to consider CBDCs is that they could eliminate, or at least reduce, the need for financial intermediaries, such as commercial banks and payments processors, to transfer money and perform payments. This could lead to lower friction costs for users. However, it would also depend on the type of CBDC chosen, with the main distinction being made between wholesale and retail CBDCs (see Figure 2), and whether regulated financial intermediaries should be part of the issuance of CBDCs.

Figure 3 describes the different types of CBDCs in more detail and provides examples of countries exploring them. One key difference between CBDCs and existing traditional currencies is that with retail CBDCs, individuals could have an account directly with a central bank. As a consequence, central banks opting for this model would need to perform 'know-your-customer' (KYC) and 'anti-money-laundering' (AML) checks. These grueling tasks are currently performed by heavily regulated financial institutions, typically commercial banks, many of which have been heavily fined for their shortcomings.

This choice between setting up direct retail accounts at the central bank, or still using commercial banks as intermediaries, brings us to the third important reason for central banks to consider CBDCs: improving financial inclusion. This is relevant not only in emerging countries but also in developed ones, where a non-negligible share of the population still doesn't have access to a bank account. According to the World Bank, 1.7 billion adults across the world, or 31% of all adults, did not have a basic transaction account in 2017, even after 1.2 billion people opened a bank account between 2011 and 2017.[2]

[2] See: "The global Findex Database 2017" report, The World Bank.

Figure 3 | CBDCs and their characteristics



Source: Henri Arslanian/Twitter, Robeco, August 2020.

Commercial banks are typically reluctant to open bank accounts for individuals who do not offer enough business potential. However, the possibility of opening bank accounts directly at a central bank would be one way to help solve this problem, although this would require central banks to perform KYC and AML duties. Another solution would be to create digital wallets with 'tokenized' CBDCs.[3] This, however, would result in limited financial services and not really solve the financial inclusion problem.

A third solution would be to encourage commercial banks and other regulated intermediaries to enable CBDC accounts for everyone with a phone (i.e., mobile phone number) and proof of their (digital) identity. This type of account would help banks build financial data over time and ultimately make it possible for unbanked individuals to apply for a loan, for example. Central banks could also incentivize the opening of such CBDC accounts by adding to their balance, with specific spending instructions. In other words: helicopter Money 2.0.

Mainland China as a precursor

As already mentioned, Mainland China's PBoC seems to be the most advanced in this field among the world's major central banks. The PBoC has already deployed its so-called DCEP system in various Chinese cities using special bank accounts accessible through mobile phones. With this digital cash, individuals can carry out transactions with selected merchants, without using Chinese yuan coins and banknotes, nor the QR code-based payment systems offered by Alibaba and Tencent.

Interestingly, this Chinese digital currency is only mentioned as a two-tiered retail CBDC in Figure 3, even though the country seems very likely to investigate a potential cross-border wholesale CBDC. Will China introduce a wholesale CBDC that may become a serious competitor to traditional reserve currencies such as the Japanese yen, euro, and, most importantly, US dollar? This may seem like a long shot today, but the situation could evolve rapidly, given China's ambition to expand its influence across the globe.

[3] The term 'tokenization' refers to the process of issuing a blockchain token that digitally represents a specific real tradable asset.

China continues to develop its 'Belt and Road' initiative, which started as a global infrastructure development strategy but now increasingly comprises initiatives designed to acquire technological capabilities, stimulate international trade and gain additional knowledge beyond the initial plan of building physical infrastructure that enables transport along the original historic trade routes between the east and the west. In this context, launching a wholesale CBDC would seem like a logical step.

Potential impact on banking systems

As central banks continue to look for a response to Facebook's Diem, China's nascent CBDC and rising competition from cryptocurrencies, one would almost forget the potential impact of CBDCs on banking systems. In our view, the economic damage could be significant if central banks were to launch retail and wholesale CBDCs that would squeeze out most of the commercial banking system. For one, despite challenger banks, fintech companies and tech giants encroaching on the most profitable segments of financial services, incumbent commercial banks still fulfill very important roles.

In the absence of credible technological solutions to ensure(digital) identification, as well as KYC and AML duties, traditional commercial banks will remain much needed. The Aadhaar project sponsored by the government of India, for digital identification, provides a good example. Aadhaar is a 12-digit unique identity number based on biometric and demographic data. But its status has become less powerful since September 2018, after the Supreme Court of India upheld the use of Aadhaar, but declared its mandatory linking with bank accounts or mobile SIM cards as unconstitutional.

The ruling came after several Indian civil rights groups voiced privacy concerns. The Indian government is clearly frustrated about the ruling, as it hampers financial inclusion which had greatly improved with the help of Aadhaar.
As a result of the Court's ruling, Aadhaar is not mandatory to open bank accounts, getting a mobile phone number or being admitted to a school. Despite that, however, Aadhaar remains in use. Minor adjustments could perhaps address the privacy concerns raised.

One additional and very fundamental function of commercial banks is to provide funding to the economy. Banks take deposits and lend money to individuals and companies. The introduction of CBDCs could change those dynamics depending on their design. Potential funding shortages could be 'solved' by offering direct central bank funding. But that would increase the economic power of central banks, while many of them – due to their independent status – are not subject to any type of significant control from governments.

Finally, the potential economic impact resulting from central banks deciding to play a more important role in cross-border money transfers, through wholesale digital currencies, could also be material. On the positive side, such currencies could replace existing and less efficient international money transfer systems, such as SWIFT. However, wholesale digital currencies could also challenge, and potentially kill, other more efficient commercial initiatives, thus restricting potential innovation.

All in all, we believe that most large central banks will therefore be very cautious when they eventually implement CBDCs. For example, they might restrict individuals to limited deposits with them. This would curtail potentially destabilizing deposit flights from commercial banks to central banks once retail CBDCs are introduced. From this perspective, the disruption in the financial industry, that can be expected from the rise of CBDCs, should remain relatively limited for the foreseeable future.

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