Central banks-issued digital currencies: a challenge to the financial system

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Digital currencies, and more specifically, the so-called cryptocurrencies (currencies issued and administered by decentralised networks using cryptographic protocols), such as Bitcoin, first emerged almost a decade ago. However, they have attracted particular attention over the past year due to the huge profits they have made for traditional investors and the general public, who have come to see them as potential alternative assets at a time of low and even negative interest rates.

Although use of cryptocurrencies is still very low compared to national currencies, they nevertheless have a number of very interesting characteristics as a result of their underlying technology - DLTs or distributed ledger technologies. These offer a mechanism for creating a digital alternative to physical cash. This was previously impossible due to the difficulty of realistically replicating certain attributes, such as anonymity and peer-to-peer transfer without the need for intermediaries. The possibility of issuing digital cash, together with concern about the increase in the number of cryptocurrencies outside the conventional financial system, has led central banks to take an interest in this phenomenon and analyse scenarios for the issue of their own cryptocurrencies.

The Bank of England was the first such institution to analyse this issue, in a paper published in July 2016. It was followed by central banks in Canada, Russia, China and Sweden among others, as well as the European Central Bank, which have all set up working groups to study this option and, in some cases, prepare pilot projects, with varying scopes.

DLTs allow the issue of different types of cryptocurrency with differing characteristics. For example, the currency may have restricted access (i.e. it may only be used in inter-bank transactions) or universal access, it may be anonymous or identifiable, and it may be interest bearing (i.e. its face value may change) or non-interest bearing. Each of these variants has different advantages and disadvantages that central banks will have to weigh up when making their decisions.

Some of these plus points and drawbacks are clearly evident. Digital cash is much easier to administer than its physical equivalent and is also much more traceable, especially in the case of an identifiable currency. This would give the public finance system total control over the money in circulation, preventing both tax evasion and money laundering. Cryptocurrencies that allow interest rates to be set (both positive and negative) would eliminate the limit of zero interest rates due to the existence of cash. This would facilitate the implementation of monetary policy, although it might negatively impact the image of central banks, as it would not only allow financial tightening, but could also give rise to perverse incentives for the central bank. This might undermine the premise of its independence when implementing such policies.

There would also be potentially disruptive effects for the financial sector. A non-anonymous identifiable and universally-accessible cryptocurrency would be equivalent to a direct deposit at a central bank, which, by definition, would be fully guaranteed. This would seriously threaten the business model of commercial banks, as many customers would prefer to put their money directly in the hands of the central bank. Commercial banks could only compete by offering higher remuneration on deposits or by becoming investment management companies for customers seeking higher returns in exchange for greater risk.

One fundamental unknown in this scenario is who will be responsible for converting the deposits into credits, bearing in mind the residual role that commercial banks would play in attracting deposits and the improbability of the central bank undertaking this activity directly.

n short, the impact of a central bank deciding to issue its own cryptocurrency is potentially so great that it is unlikely that any of them will do so in the short term, at least in the most disruptive versions. Cryptocurrencies are more likely to be used in a more restricted form within an inter-bank context, although, as the European Central Bank and the Central Bank of Japan have recently stated, even this will need the technology to achieve a level of maturity that is still some way off.

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