



BANK OF ENGLAND

Digital future for sterling: assessing the implications

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Technology has revolutionised many industries, with banking, investment and insurance in line for transformation. The potential for a Central Bank-issued Digital Currency (CBDC) to act as an electronic equivalent to banknotes is being investigated by the Bank of England.

Over the past decade, technology has revolutionised industries ranging from accommodation and taxis to matchmaking and film rentals, producing many new household names – Airbnb, Uber and Netflix to name a few.

While there has been considerable activity in the financial sector, with many developments making customer interfaces easier, the results have not been as significant or disruptive. This may change: there is a growing expectation that the latest wave of financial technology will be transformative, with the potential to challenge and disrupt age-old business models in areas such as banking, investment management and insurance.

One area that may see significant change is the world of payments. The Bank of England is responsible for operating and promoting safe and efficient payment systems in the UK. One way that it does this is through the provision of the ultimate risk-free asset: central bank money. This can take a physical or digital form. Everyone is familiar with paper and – in the UK since 2016 – polymer banknotes that make up physical central bank money. Despite being a centuries-old innovation, banknotes are still a key payment method worldwide and, even today, account for nearly half of consumer payments in the UK.

Keeping up with financial technology

The Bank also enables electronic settlement in central bank money. Since 1996, the Bank has issued an electronic form of central bank money, through the provision of accounts in its real time gross settlement payment system. This system is critically important, settling around £500bn of payments every day between banks and a small number of other financial institutions.

The Bank has initiated the process of renewing its existing settlement system, to give it the flexibility to respond to the rapid pace of change in payments expected over the coming years. This will enable the Bank to deliver a central bank money settlement service that is more resilient, promotes broader direct access and gives greater flexibility to meet future user needs in areas such as richer data and extended operating hours. One change being made is to extend access to central bank settlement accounts to nonbank payment services providers (both e-money and payment institutions), as a means of promoting a more diverse and innovative sterling payments market.

This raises the issue of how far the Bank can go. The public at present has direct access only to physical central bank money. But recent technological developments, in particular the emergence of cryptocurrencies such as Bitcoin, Litecoin, Dogecoin or Monero, have led to questions around whether central banks will issue their own equivalent – a central bank-issued digital currency.

A CBDC could enable businesses and non-bank financial institutions, and – in its most extensive form – individuals, to make payments and store value in electronic central bank money, alongside physical cash. Essentially it would be an electronic equivalent to banknotes, denominated in the national currency, allowing businesses and households to hold balances in central bank money and to pay each other in real time with full and final settlement in electronic format.

Implications for policy

On the surface, this may seem straightforward – a modernisation of access to central bank money to keep up with the times. But like many developments in financial technology, it could have wide-ranging implications. The Bank of England wants to understand the potential implications for its mission, which is to promote the good of the people of the UK by maintaining monetary and financial stability. To help understand the implications it is undertaking a research programme over several years to assess the benefits, costs, opportunities and risks, as well as the feasibility, of introducing a CBDC.

There are many complex technical and policy questions to address, such as whether a CBDC would enhance or impede the Bank's management of monetary policy. Changes in bank rates can take some time to be passed through to consumers, but the existence of a CBDC may speed up the transmission of changes in interest rates across the economy. And initial research suggests that it could enhance growth in GDP, for example through increasing the supply of risk-free assets. But there may be unintended consequences, for example for financial stability.

A CBDC may introduce additional risks to stability by making it easier for customers of commercial banks to switch from deposits – even those protected by the Financial Services Compensation Scheme – to an asset that is perceived to be completely risk-free (money at the central bank). Consequently, if a significant proportion of consumers moved to a CBDC, this may reduce the liquidity, funding and credit provision of commercial banks. These potential impacts, which could fundamentally change the structure of the financial system, must be weighed against any benefits for financial stability.

Engagement with ground-breaking research

The Bank has also been exploring the feasibility of a CBDC – a system that could, in extremis, be open to over 60m people and millions of companies. This includes looking at what kind of technology would be needed, exploring whether distributed ledger technology has additional benefits over most established technology and what barriers exist in regulation and law to a CBDC being implemented.

A CBDC will create some fascinating opportunities but also poses many significant and complex questions, which must be answered before the Bank can consider making a fundamental change to the nature of central bank money. Such wide-ranging questions need the input of as many expert and diverse minds as possible, so the Bank has published the [key questions on its website](#) and it encourages academics and industry practitioners to engage with this ground-breaking research. ■