

Opinion **Blockchain**

The Fed should seize blockchain's potential

Central banks must embrace new financial technologies to boost market stability

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Adopting distributed ledger technology could transform modern financial systems, which are rife with inefficiencies © Nils Ackermann/Dreamstime

Eswar Prasad JANUARY 1, 2019

The plunging prices of [bitcoin](#) and other cryptocurrencies are validating sceptics who deride them as pure [speculative bubbles](#), enabling a global cesspool of illegal commerce. The environmental cost of the massive energy consumption needed to create bitcoin is another strike against it. Whatever happens to bitcoin, its underlying technology, called blockchain, could transform the worlds of finance and central banking.

Central banks, including the [US Federal Reserve](#), need to figure out the implications of such distributed ledger technologies and how to adapt to them. At the very minimum, there are looming changes to how central banks run monetary policy and ensure financial stability.

Unofficial cryptocurrencies are not about to displace central bank currencies. Moreover, the Fed arguably has little to worry about given the dominance of US financial markets and the dollar in global finance. Still, even the Fed risks being outrun by rapid technological change in financial markets that could strike at its core functions. It should instead seize the opportunity to lead the world's central banks by harnessing the powers of the new technology.

Blockchain is an electronic distributed ledger that can record transactions between two parties

efficiently and in a verifiable and permanent way. Each transaction is recorded on multiple electronic ledgers, is visible to anyone with a computer, and cannot be manipulated by any one party.

This process is the crux of the technology's appeal. Rather than having transactions verified by a central bank or commercial bank, blockchain does so through people power. Trust comes from the public verification by multiple agents in a network, who must all agree.

Adopting distributed ledger technology could transform modern financial systems, which are rife with inefficiencies. Making payments, verifying different stages of a transaction, and ensuring the finality of such transactions remains time-consuming and costly. Banks charge steep fees to process domestic payments. International transactions are even worse, with the process taking days and involving a stiff fee.

The new technology can make these processes more efficient, quicker and cheaper. It could allow a group of banks to settle transactions without having to go through a trusted middleman such as a central bank. Unlike bitcoin's public ledger, they could restrict access to the ledger to a network of participating banks. This would also make it easier to transfer funds across countries, cheaply and with instant verification.

This is all good for financial institutions and their customers, but could leave central banks with a diminished role, making it harder to monitor and control domestic and cross-border financial transactions.

Some central banks, such as those of Singapore and Sweden, plan to issue digital versions of their currencies to retain their key role in domestic payment systems. Many emerging market economies, including China and Uruguay, have similar plans in the works. Their governments view official digital currencies as a way to also broaden financial inclusion.

The Fed is undertaking a major effort to improve retail and interbank payment systems in the US. But it remains sceptical about whether digital currencies can contribute to this effort. Attempts by Russia and Venezuela to issue their own cryptocurrencies to evade financial sanctions have heightened scepticism about the necessity and legitimacy of official digital currencies. This could be a lost opportunity.

The Fed and other central banks can deploy the technology to benefit their countries. Unlike paper currency, digital cash is potentially cheaper and easier to use, and makes it harder to evade taxes or fuel illicit activities. Central banks could also use the technology to improve the speed and efficiency of payment systems, rendering it easier to make and verify payments across people, businesses and financial institutions.

Should central banks merely accommodate newer cryptocurrencies and decentralised payment

systems? This comes down to whether the trust that individual citizens and financial institutions place in central banks can ever be replaced by decentralised verification mechanisms. These alternatives might work fine in normal times. But during times of financial market stress, public trust in decentralised payment systems could vanish, bringing financial systems and economies to a grinding halt.

Central banks will need to innovate and adapt to changing financial technologies. But their biggest asset is the trust that households and businesses have in them. In finance, people power may go a long way but will not be a substitute for that trust. The Fed and other central banks should embrace new financial technologies to build on that trust and use them to make financial markets more efficient and stable.

The writer is a professor at Cornell University and senior fellow at the Brookings Institution

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