

Digital Currencies: A System Upgrade or Problems 2.0?

Remarks by

Esther L. George
President and Chief Executive Officer
Federal Reserve Bank of Kansas City

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The views expressed by the author are her own and do not necessarily reflect those of the Federal Reserve System, its governors, officers, or representatives.

Technology and innovation have a long history of joining forces to disrupt existing conventions. We certainly see this dynamic playing out in today’s financial system as it relates to how we think about money and its role in facilitating payments. While digital currencies—the subject of this program—have modern features, the public policy questions associated with privately issued currencies are familiar ones in a historical context.

Well before the Federal Reserve’s creation in 1913, the United States had already been through multiple periods of what might be considered “financial experimentation.” In the early 1800s, a time when our nation’s western boundary barely reached the Mississippi River, hundreds of commercial banks were issuing their own unique currencies.¹ This era of wildcat banking prevailed for nearly three full decades with banks issuing even more poorly backed and suspect currency. In this period, currency values could fluctuate wildly and created an impediment to commerce for both sides of a transaction; the good or service being purchased as well as the currency used in payment could be vulnerable to negotiation.

Still, the motivation for creating many of these early private currencies was in response to demand from a population seeking access to a medium of exchange that would improve the flow of commerce. In fact, the demand for private money remained in place even after the founding of the Federal Reserve, as national bank notes and Federal Reserve notes co-existed in circulation for several decades. This experience was true in other countries as well.

Today’s landscape is different in many respects from the wildcat era. But the questions facing policymakers strike me as having similar refrains.

¹ Clark M. St. Clair and Hall, D.A. eds. “Documentary History of the Bank of the United States.” Gales and Seaton, 1832. P. 632. Note that these remarks were made around 1816.

In my remarks this afternoon, I'll highlight the features of the current payments landscape that drive the private sector's digital currency solutions. This landscape also is prompting central banks to respond, and in this regard, I'll talk about the Federal Reserve's approach.

This is a good time to remind you that the views I express here are my own, and not necessarily those of the Federal Reserve System.

What Problems are Digital Currencies Trying to Solve?

New privately issued digital currencies seek to bring money into the digital world with improvements in speed and cost, and with the scale and scope to provide broad access. The ability to send money with the speed and convenience of an email message is appealing and understandably gaining rapid adoption.

First, let's discuss speed. The Federal Reserve has heard from the industry for a number of years that payments need to be faster. However, one of the reasons processes have not been updated is that the underlying infrastructure is not designed to be instantaneous. As a result, it can take up to a few days for someone to receive funds in a personal account, regardless as to whether the payment was by check, ACH, card, or one of the increasingly popular payment apps. This can be especially problematic for many Americans who are living paycheck-to-paycheck. It also matters to small businesses and their ability to manage cash flow.

The cost of payments is another pain point that is potentially amplified by multiple intermediaries in a payments transaction. For example, some providers of digital currencies highlight what they view as excessive interchange fees—an issue we at the Kansas City Fed have been studying for more than 15 years—as a reason that merchants may be interested in adopting

this new medium of exchange over current systems.² According to a 2019 Nilson Report, U.S. merchants collectively paid fees of \$108 billion to accept credit, debit, and prepaid cards in 2018.³ The majority of these were interchange fees.

The reach of payment capabilities also is an important aspect of today's landscape. Globalization has led to an increase in cross-border payments. Yet because infrastructure, currency, standards, laws and regulations are domestic and not international, there are many efficiency and coordination challenges with cross-border payments. As a result, the location and jurisdiction of payment participants matters, and raises the question of whether digital currencies can address these challenges.

Finally, digital currencies have been touted as better facilitating access to the financial system for the unbanked population. This is an issue that brings to mind that paper currencies in Colonial America were developed as something of a proxy for the gold or silver that the British largely kept out of the colonies. Colonists, unable to access the specie used for commerce in much of the rest of the developed world, began to develop their own rudimentary system. In it were bills that could be redeemed for some amount of another item—for example, the Continental Congress issued bills that could be redeemed for Spanish dollars. For colonists, this was one way—although perhaps not the best or most efficient way—of addressing issues of access.

According to the World Bank, 1.7 billion people still do not have access to useful and affordable financial products and services. As commerce and payments have become more

² See, for example, Hayashi, F. (2004) "[A Puzzle of Card Payment Pricing: Why Are Merchants Still Accepting Card Payments?](#)" Federal Reserve Bank of Kansas City Payments System Research Working Paper, WP 04-02. The Federal Reserve Bank of Kansas City hosted an international payments policy conference entitled "[Interchange Fees in Credit and Debit Card Markets: What Role for Public Authorities?](#)" in 2005.

³ Nilson Report, Issue 1155, June 2019.

digitalized, those who rely solely on physical cash for transactions may run the risk of limiting the transactions they can conduct.

What are the Problems Associated with these Innovations?

Each of these are legitimate problems that digital currencies seem well suited to address. Yet we can't overlook that despite efforts to make payments faster, less costly, and broadly accessible, today's privately issued digital currencies operate largely outside our existing institutional and regulatory frameworks. This raises important questions for policymakers. I would highlight three potential problems related in particular to central bank objectives: the role of the banking system, the implications for monetary policy, and the risks to financial stability.

Digital currencies and other private nonbank financial innovations challenge the notion of the traditional bank business model. Our institutional frameworks have for some time regarded commercial banks as foundational, even special, to our financial system in three particular aspects.⁴ First, no other type of financial company and its funding has access to the public safety net of federal deposit insurance and the Federal Reserve's discount window. Second, banks are regulated and supervised because of this safety net and their key role in the economy. Indeed, the separation of commercial banking from investment banking and commerce was an important part of the prudential regulatory structure for many years. Finally, only banks have direct access to the Federal Reserve's payments rails.

Nonbank financial companies are competing aggressively for these traditional banking functions. Lending platforms offered by nonbank entities allow households and businesses to

⁴ Corrigan, E. Gerald, 1983. "Are Banks Special?" Federal Reserve Bank of Minneapolis, 1982 Annual Report. Available at http://www.bu.edu/econ/files/2012/01/Corrigan-Are-Banks-Special_main-text.pdf.

access credit, and nonbank payment services are growing rapidly. According to McKinsey data, global revenue in these services grew to \$1.9 trillion in 2018.

Some federal and state banking authorities have considered the use of special purpose charters as a way to cast a regulatory frame around these new “fintech” activities. In 2018, the Office of the Comptroller of the Currency announced it would issue a fintech charter, only to face legal challenges. At the state level, legislation is beginning to accommodate digital currency activities through special purpose depository institutions operating under new regulatory regimes. For example, the state of Wyoming has passed legislation that will allow these new special purpose depository institutions to apply for membership in the Federal Reserve System and to gain access to the payment system through a Federal Reserve Bank master account.

The adoption of private digital currencies at scale also has implications for monetary policy. Should digital currencies lead to a large share of financial transactions taking place outside of the current system, then digital currencies may challenge current operating frameworks. For instance, the Federal Reserve implements monetary policy by engaging with a limited number of primary dealers. This centralized framework could be challenged should a decentralized medium of exchange develop which facilitates financial settlement outside of the markets in which primary dealers operate.

In addition, one of the most basic functions of the central bank is to supply liquidity in times of crisis. However, without a clearly defined set of counterparties, the benefit of this function could be limited. More generally, the proliferation of digital currencies may challenge the ability of central banks to achieve their longer-run macroeconomic objectives to the extent it erodes the ability of monetary policy to influence broad financial conditions confronting households and businesses.

Finally, the stability of the financial system is foundational to the ability of central banks to achieve their objectives. Events that trigger a loss of confidence or incite a classic bank-like run may not find remedies in the existing regulatory and policy toolkit, including the Federal Reserve's discount window.

What are Central Banks Doing to Address These Problems?

The accelerating pace of change has implications for financial systems around the world and for the way central banks conduct their business to meet their objectives. To that end, the Bank for International Settlements (BIS) has organized an Innovation Hub where global central banks can collaborate and experiment. Additionally, more than 50 central banks are engaged in digital currency work, according to the BIS. Countries like Sweden and Uruguay are evaluating digital currency prototypes.

Although the Federal Reserve has no plans to issue a digital currency, we are carefully monitoring and studying global developments. A more immediate priority has been to modernize our own payment rails to meet the demand for reliable, real-time payments, as are other central banks around the world.

We are currently developing a new retail payment service called FedNow to support widespread adoption of faster payments in the United States. This service will operate alongside a private sector service to provide real-time, payment-by-payment, settlement of interbank obligations through debits and credits to banks' balances in accounts at the Reserve Banks while incorporating clearing functionality, thus allowing for end-to-end faster payments. We expect FedNow will be able to address the concerns that we've heard from the public about the need for a real-time payments infrastructure.

Other central banks also are addressing the desire for speed. The Reserve Bank of Australia developed its Fast Settlement Service, which “enables final and irrevocable settlement of individual New Payments Platform transactions in real time.” TARGET Instant Payment Settlement, commonly known as TIPS, was developed to reach retail participants in the Eurozone. Additionally, modernization efforts are underway for countries with existing faster payment systems, such as the U.K.

As it relates to the costs of today’s payment system, central banks are responding in different ways. Some countries allow central banks and other public authorities to directly regulate the payments system and often have the authority to regulate certain fees associated with making a payment. Central banks such as the Federal Reserve operate retail payment systems to achieve its objectives for efficiency, accessibility, and safety. Operating alongside the private sector in the delivery of retail payment services to some 10,000 financial institutions in the U.S. has been judged by the Government Accountability Office in a 2016 report to promote innovation and competition with benefits to the public.⁵

Central banks also have begun to coordinate their efforts at an international level. For example, this year’s Financial Stability Board (FSB) work program highlights how the FSB, in coordination with the BIS’s Committee on Payments and Market Infrastructure (CPMI), will create a roadmap for the G-20 to enhance global cross-border payments. As participants of both the FSB and the CPMI, the Federal Reserve will be working with its international counterparts to address some of the pain points with cross-border payments.

⁵ See: “Federal Reserve’s Competition with Other Providers Benefits Customers, but Additional Reviews Could Increase Assurance of Cost Accuracy.” U.S. Government Accountability Office. August 30, 2016, at <https://www.gao.gov/products/GAO-16-614> and “The Federal Reserve in the Payments Mechanism.” Federal Reserve System. January 1998, at <https://www.federalreserve.gov/boarddocs/press/general/1998/19980105/19980105.pdf>.

Finally, access to financial services remains an important policy goal. This is an important consideration for the U.S. as well, although access to technology itself has been noted as a barrier with some 45 percent of unbanked households having neither a smartphone nor internet access at home. This means almost half of the unbanked may not be able to use these new payment solutions. Providing a foundational infrastructure such as broadband internet service will be essential for this population. The Federal Reserve has viewed such investments favorably for purposes of the Community Reinvestment Act.

Conclusion

Payments digitalization, new entrants, and new business models will continue to disrupt and reshape the financial services industry. As I noted earlier, digital currencies may well have the potential to address pain points in the current payments system. At the same time, however, we should be mindful of lessons from the past.

Realizing the benefits of these alternative solutions argues for careful consideration of the important safeguards that have fostered the public's confidence in, and the safety of, the financial system. To that end, it is important for central banks and other policymakers to monitor closely these emerging technologies and to assess potential implications to the banking industry, to financial stability, and to monetary policy, which are essential for securing the public's trust and confidence.

I look forward to the insights that will come from this forum.