FEDERAL RESERVE BANK of ST. LOUIS

President's Message: Importance of Studying Innovations in Payment Technologies

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The Federal Reserve Bank of St. Louis has a long tradition of providing thought leadership in monetary economics. An important issue in this area today is the emergence of new payment technologies, given their potential to transform money and the payments system. Therefore, our 2021 annual report examines opportunities and concerns surrounding cryptocurrency, blockchain and decentralized finance. While these payment technologies are new to some, economists at the St. Louis Fed have been studying innovations such as those discussed in this annual report for several years now.

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Cryptocurrencies and a Non-Uniform Currency System

Cryptocurrencies were introduced to the global economy more than a decade ago, and since then, they have inspired much research and commentary. As a research economist myself, in addition to my role as a monetary policymaker, I have studied "private money" and have given talks on currency competition. For example, I spoke about "Non-Uniform Currencies and Exchange Rate Chaos" (PDF) at a May 2018 CoinDesk conference.

Currency competition is nothing new. Globally, we have ample currencies issued by government monetary authorities, and these currencies tend to trade at volatile exchange rates. In the current environment, privately issued currencies (such as cryptocurrencies) are also competing with publicly issued currencies. The exchange rates between the public and private currencies tend to be more volatile than the exchange rates between various public currencies.

I have argued that cryptocurrencies may be creating a movement toward non-uniform currency in the U.S.—a system that society has disliked historically. In the pre-Civil War era, the majority of the U.S. money supply consisted of privately issued banknotes.[1] Publications listed and frequently updated the going exchange rates for different currencies in particular locations. Similar to today's global currency system, the pre-Civil War era was characterized by exchange rate chaos, with currencies constantly fluctuating against one another. People didn't like that system, and a uniform currency was implemented in the U.S. during the Civil War. But cryptocurrencies may unwittingly be pushing us back in the direction of a non-uniform currency system.

Some Potential Risks of These Payment Technologies

In theory, the new payment technologies that have emerged in recent years may help reduce costs and improve efficiencies of financial transactions. They may also be used to facilitate financial transactions that could otherwise be difficult.

Cryptocurrencies, however, are currently viewed more as a store of value than as a medium of exchange. Their volatile prices and exchange rates make them not ideal for payments and can result in large losses for those who view these cryptocurrencies largely as investments.

Another well-known concern is that cryptocurrencies are sometimes used for transactions that are illegal. For instance, ransomware attacks typically ask for payment in cryptocurrency. Therefore, much of the impetus behind the technological innovation in payments seems to be coming from illegal sectors. An economist would interpret that as a form of regulatory arbitrage or illegal arbitrage, whereby people are trying to bypass a barrier that exists with ordinary financial channels.

In addition, these payment technologies are unregulated by governments—which some view as a benefit. From a policymaker's perspective, the lack of government regulation and oversight has implications for financial stability of the system overall.

Cryptocurrency Market and Implications for Monetary Policy

What about implications for monetary policy? Famous 20th-century economist Milton Friedman said that if people are allowed to issue private currency, then a lot of private currencies will be issued. We see that today with the proliferation of cryptocurrencies—free entry has resulted in thousands of them. While an individual cryptocurrency may have limited supply, the cryptocurrency market overall does not. At least from a monetarist perspective, the question would then become: What is the money stock of the nation? This, in turn, would have implications for forecasting what the price level and inflation will be in the future.

In light of the cryptocurrency wave, some have called for the creation of a U.S. central bank digital currency (CBDC). In January, the Federal Reserve Board of Governors released a discussion paper on the potential benefits and risks of a U.S. CBDC. This paper "invites comment from the public and is the first step in a discussion of whether and how a CBDC could improve the safe and effective domestic payments system," as stated in the Board's press release. Accordingly, the topic is under study, but the Fed is not making any commitments regarding a CBDC at this point.[2] More recently, U.S. President Joe Biden signed an executive order in March for various government agencies, including the Fed, to study digital assets (such as cryptocurrencies) and the potential creation of a U.S. CBDC, as summarized in a fact sheet related to the order.

Importance of Continuing to Study Payment Technologies

Technology is always changing, and it is very clear that financial intermediation will be different in the future than it is today. But exactly how this technology will be dispersed and how long that process will take remain uncertain.

Nevertheless, we at the Federal Reserve have to track developments in this area closely so that we can maintain price stability and financial stability and promote a strong economy in the U.S. Also, the Fed already is working toward improving the efficiency of the payments system. The Federal Reserve banks have made a lot of great progress on the development of the FedNow Service, which aims to provide real-time payment services to financial institutions 24 hours a day, 365 days a year.

Whether the new payment technologies discussed in our 2021 annual report are a genuinely innovative disruption that may prove useful for the nation's financial system remains to be determined. I hope you will read our annual report and find the main essay "The Blockchain Revolution: Decoding Digital Currencies" informative.

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Endnotes

1. See Temin, Peter. *The Jacksonian Economy*, W.W. Norton, 1969.
2. The Federal Reserve Bank of Boston and Massachusetts Institute of Technology are also collaborating on research focusing on central bank digital currency. For more information, see the findings from their initial research.