

Testimony of Paige Paridon

Senior Vice President and Senior Associate General Counsel

Before the U.S. House Financial Services Committee's Subcommittee
Digital Assets, Financial Technology and Inclusion

At the Hearing *Digital Dollar Dilemma: The Implications of a Central Bank Digital
Currency and Private Sector Alternatives*

September 14, 2023

Chairman Hill, Ranking Member Lynch and Honorable Members of the Subcommittee, thank you for inviting me to testify. I am Paige Pidano Paridon, senior vice president and senior associate general counsel at the Bank Policy Institute (BPI). BPI is a nonpartisan policy, research and advocacy organization representing the nation's leading banks. BPI members include universal banks, regional banks and major foreign banks doing business in the United States.

Technological innovation over the last several years has led to the emergence of new entrants offering payments services and new technologies that have increased the speed of payments, clearing, and settlement and new forms of digital money. Reflecting a variety of concerns about this innovation, central banks have been studying and exploring the potential benefits and risks of central bank digital currencies (CBDCs). Fortunately, the Federal Reserve Board has taken a deliberate approach and has recognized that as both a legal and policy matter, Congress should decide whether the United States should have a central bank digital currency. That question is a difficult one, involving a myriad of competing concerns. On balance, we believe that — at this point — there is little evidence that a CBDC would bring measurable benefits to the U.S. economy, or that it is necessary to defend the dollar's status as the world's reserve currency. Furthermore, a CBDC comes with a series of difficult policy and operational issues and risks creating financial instability. Other countries, most notably the European Union, may experiment with a CBDC, and we have time and good reason to observe that process before proceeding with any possible CBDC in the United States.

Background

Currently, the currency of the United States takes the form of notes and coins, generally referred to as cash. Central bank money includes cash, a "physical form" of money, but mostly takes digital form as reserves held at the Federal Reserve Banks. These reserves are used by banks to clear and settle obligations between each other and are used by the Federal Reserve to implement monetary policy. Commercial bank money (sometimes called private money) is also digital in form and takes the form of deposits at insured depository institutions. Thus, debit card transactions at point of sale, Zelle or Venmo payments and electronic payroll deposits are all examples of transfers of commercial bank money.

CBDCs are a form of digital money, denominated in the national unit of account, which is a direct liability of the central bank.¹ A CBDC can take one of two general forms — a wholesale CBDC or a retail CBDC. A wholesale CBDC is designed for use only by and among financial intermediaries. A retail CBDC is designed for use by the wider economy, including consumers and businesses.²

Some people describe a CBDC as a necessary step to modernize our form of money from physical to digital and they talk about the need for the U.S. to have a "digital dollar," but this is total mischaracterization. The fact is that today, a large and growing majority of U.S. dollar transactions already are conducted with digital money. Consider that, vault cash aside, every dollar on deposit at a U.S. bank is in digital form and thus a "digital dollar."

¹ BIS, Economic Report 2021, Chapter III: CBDCs: an opportunity for the monetary system (June 23, 2021) at 65 ([link](#)).

² *Id.*

To date, most research and attention on a U.S. CBDC, including the Federal Reserve’s 2022 Discussion Paper on CBDCs, has been focused on a retail, intermediated and account-based model.³ Under this model, consumers would hold their CBDC in an account at a bank or other financial intermediary, similar to the way that a custody bank holds a security or other type of asset for a customer. The intermediary would have to provide the CBDC to the customer on demand. The intermediary could not do anything with the customer’s CBDC. This fundamentally distinguishes the current system, in which banks use customer deposits to finance loans and other investments in the real economy, from any future system with a CBDC, in which customers’ CBDCs could not be used by the bank to make any such loans or investments. Any transfer of a dollar deposit from a commercial bank or credit union to a CBDC is a dollar unavailable for lending to businesses or consumers. We believe that there is a widespread popular misconception on this point, which the Federal Reserve and other policymakers should strive to rectify.⁴

Under the intermediated approach being considered, the operational tasks and costs, including account opening, account maintenance, enforcement of AML/CFT rules and day-to-day customer service would be assumed by the intermediary at considerable cost. While such an approach would help assure compliance with law and maintain good customer service for CBDC holders, the costs involved are likely to result in consumers being charged a fee for holding and transferring CBDC.⁵

The Board’s paper provides a high-level overview of some of the potential benefits and risks that an intermediated, account-based CBDC could pose, and also references potential alternative means of achieving those benefits. The paper also acknowledges the serious risks to the U.S. economy and financial system that could be posed by an intermediated CBDC.⁶ In short, by attracting deposits away from banks, particularly during a period of economic stress, a CBDC would likely undermine the commercial banking system in the United States, and severely constrict the availability of credit to the economy in a highly procyclical way.

Many of the potential benefits cited by proponents of a CBDC are uncertain and, importantly but not well-understood, many of those benefits are mutually exclusive with one another and thus could

³ See Board of Governors of the Federal Reserve System, “Money and Payments: The U.S. Dollar in the Age of Digital Transformation” (Jan. 14, 2022) ([link](#)). This approach is understandable given serious policy and operational problems with the alternative token-based approach. Mirroring the two current forms of central bank money, two primary architectural designs have been considered for CBDCs: account-based and token-based. Either version could be wholesale (restricted to certain financial institutions) or retail (available to everyone). Account-based CBDC can be direct (everyone has an account directly with the central bank) or indirect (banks or other financial intermediaries manage the accounts and hold the CBDC like a security held in trust). In a token-based system, the CBDC would be like cash. The legitimacy of the currency would be established by the payer’s possession of an encryption key rather than tying ownership to an identity and an account. A token-based CBDC is unlikely. Because of its anonymity, a token-based CBDC would undermine the KYC-AML regime and be a boon to terrorists and criminals. Users would be at risk of losing all their CBDC if they lost their encryption keys or failed to keep them secret. A direct, account-based CBDC would require the Fed to manage millions or potentially billions of accounts, including satisfying AML-KYC requirements.

⁴ See Greg Baer and Bill Nelson, “A Costly Misunderstanding About CBDC” (December 17, 2021) ([link](#)).

⁵ Currently, banks make money on payment systems predominantly by lending out deposits and earning net interest income, but, because a CBDC held in a digital wallet cannot be lent out to borrowers, it would come with zero net interest income for a bank or other intermediary. Banks (and FinTechs increasingly using rent-a-bank arrangements) also earn money through debit interchange, but it appears unlikely that interchange would be charged on a transfer of CBDC. Thus, deprived of traditional revenue sources to offset the costs of account maintenance, companies that set up a digital wallet to hold and transfer CBDC seemingly would have to charge consumers a considerable fee for that service.

⁶ *Money and Payments* at 17.

not be realized simultaneously.⁷ For example, one of the most frequently cited reasons in support of a CBDC is that it would increase financial inclusion. Yet, an intermediated CBDC is unlikely to address one of the primary reasons why certain individuals remain unbanked: because they lack the financial resources to open and maintain a bank account. However, in the intermediated model, there likely would be fees associated with maintaining a digital wallet with the intermediary and for the related services provided by that entity. In fact, we are unaware of any substantiated use case for CBDC that would benefit low- and moderate-income people. So far, assertions about a CBDC increasing financial inclusion seem to be more rhetoric than reality.

The potential benefits of CBDCs (e.g., faster payments, financial inclusion, global trade) may be more salient for other countries compared to the U.S. — given differences in maturity of our financial systems and the status of the dollar as the world’s reserve currency. Moreover, the United States banking system continues to address problems that a CBDC may solve through ongoing innovation (e.g., RTP/FedNow, deposit tokens) within the safety of the regulatory perimeter. Indeed, banks are subject to robust prudential requirements, including capital and liquidity requirements, conduct rigorous KYC/AML monitoring, carry deposit insurance and have comprehensive risk management frameworks.

We support the Federal Reserve’s resolve to take a careful, data-driven approach to considering “whether and how a CBDC could improve the safe and efficient domestic payments system.”⁸ Because many uncertainties remain, and because the available evidence suggests that a CBDC could present serious risks to financial stability, BPI supports the Board’s conclusion that it “will only take further steps toward developing a CBDC if research points to benefits for households, businesses and the economy overall that exceed the downside risks, and indicates that CBDC is superior to alternative methods.”⁹

Legislation Would be Required

As a liability of the central bank, a retail CBDC would have to either be a new form of currency or a new form of central bank money in accounts held by consumers.¹⁰ The provisions of federal law that speak directly to currency or coins authorize only (a) Federal Reserve notes, which must be issued in paper form and must be physically created by the Treasury Department, and (b) physical coins, which must be created with specific materials in specific sizes.

In addition, the Federal Reserve Act does not authorize the Federal Reserve Banks to establish consumer or business accounts that could be used to create a CBDC. Federal Reserve Banks are explicitly authorized only to open accounts for member banks, other depository institutions and certain other entities; there is no authority for the Federal Reserve Banks to provide accounts to consumers or businesses.

⁷ See Gregory Baer, BPI Staff Working Paper, “Central Bank Digital Currencies: Costs, Benefits and Major Implications for the U.S. Economic System” (April 7, 2021) ([link](#)).

⁸ Board of Governors of the Federal Reserve System, “Money and Payments: The U.S. Dollar in the Age of Digital Transformation” (Jan. 14, 2022) ([link](#)).

⁹ *Money and Payments* at 21.

¹⁰ A recent Federal Reserve paper argued that “a new settlement asset in the form of central bank money is not essential for a tokenized wholesale payment system.” Jon Durfee, Jesse Leigh Maniff, and Priyanka Slattery, “Examining CBDC and Wholesale Payments” (September 8, 2023) ([link](#)).

Indeed, last week Fed Vice Chair Barr's stated that the Fed would "only proceed with the issuance of a CBDC with clear support from the executive branch and authorizing legislation from Congress," echoing Chair Powell's sentiments from March of this year.¹¹ Ultimately, legislation should be enacted only if Congress and other policymakers determine that a U.S. CBDC is necessary to solve some tangible problem or problems, whether it would provide benefits, such as those often cited by its proponents, and, even if it would, whether there are alternative methods to achieve those benefits with fewer risks, costs or other downsides.

The possible benefits and costs of a CBDC should be considered with respect to, at a minimum, (i) financial intermediation and credit availability, (ii) data protection and privacy, (iii) payments efficiency, (iv) confidence in the U.S. dollar, (v) competition with stablecoins, (vi) financial inclusion and (vii) monetary policy.

Ultimately, a CBDC could present serious risks to financial stability and may provide few, if any, benefits. Furthermore, to the extent that a CBDC could produce one or more benefits, those benefits likely could be achieved through less harmful means, including through innovations in the banking sector. Because a CBDC could undermine the commercial banking system in the United States and severely constrict the availability of credit to the economy, the Federal Reserve appropriately concludes that it should only take further steps toward developing a CBDC "if research points to benefits for households, businesses and the economy overall that exceed the downside risks, and indicates that CBDC is superior to alternative methods" and only with the support of the executive branch and with legislative authorization.

Financial Intermediation and Credit Availability

As referenced above, a CBDC could disrupt financial intermediation and thereby reduce credit availability to consumers and businesses, certainly in stress events (in a procyclical way), and likely even during normal times. An intermediated account-based CBDC would inevitably lead to some level of reduced commercial bank deposits, as customers would trade deposits for CBDC. Indeed, the American Bankers Association estimated last year that even a CBDC where accounts were capped at \$5,000 per "end user" could result in \$720 billion in deposits leaving the banking system.¹² This reduction in bank deposits would lead to more expensive credit intermediation and a reduction in the supply of credit, as a CBDC is a source of funding for the Federal Reserve, not for banks, in contrast to customer dollar deposits under the current system.¹³ (We assume that the Federal Reserve would not use CBDC as a funding source to becoming a direct lender to business and consumers, as some have advocated...)¹⁴ It is through credit intermediation that banks engage in maturity transformation by taking deposits and making loans. That system provides depositors with a secure place to put their money with the right to

¹¹ Vice Chair for Supervision Michael S. Barr Speech: "The Federal Reserve's Role in Supporting Responsible Innovation" at the Federal Reserve Bank of Philadelphia Seventh Annual Fintech Conference, Philadelphia, Pennsylvania (Sept. 8, 2023) ([link](#)); Board of Governors of the Federal Reserve System, Frequently Asked Questions: Central Bank Digital Currency (CBDC) ("Testifying before the House Financial Services Committee in March 2023, Chair Powell said a central bank digital currency is, "something we would certainly need Congressional approval for.") ([link](#)).

¹² Statement for the Record On Behalf of the American Bankers Association Before the House Financial Services Committee (May 26, 2022) ([link](#)).

¹³ See Greg Baer and Bill Nelson, BPI, "A Costly Misunderstanding About CBDC" (December 17, 2021) ([link](#)).

¹⁴ Saule T. Omarova, "The People's Ledger: How to Democratize Money and Finance the Economy," 74 Vand. L. Rev. 1301 (2021) ([link](#)).

withdraw it immediately, while allowing borrowers access to stable, low-cost, long-term funding from banks.

A key risk is that, during a stress event, bank depositors could choose to move deposits from banks to the central bank by taking money out of their deposit accounts and purchasing CBDCs, leading to a potentially massive funding shock for banks. Consider, for example, the consequences for the banking system if CBDCs were an alternative to bank deposits during the banking turmoil in March 2023, during which many banks saw a significant amount of deposits flow out of their banks as customers worried about the relative safety of uninsured deposits.

At best, a quick and sizeable deposit run on the banking system in favor of CBDCs would result in a corresponding reduction in loan supply funded by those deposits. Funding risks could be reduced by limiting CBDC to retail use only (meaning that large corporate deposits could not run to CBDC) and by capping the value of CBDCs permitted to each account holder. However, these measures also would appear to forfeit many of the putative benefits of a CBDC. In particular, if there is a limit imposed, then there would have to be a bank (or other type of) account associated with the CBDC account to receive overflow, which would eliminate the benefit of a CBDC for those seeking alternatives to bank or other private sector accounts. Moreover, it may not be credible that limits would be maintained in periods of stress, as there may be significant pressure to raise those limits to allow households to shift their wealth into the risk-free asset the Federal Reserve had created. Indeed, the Federal Reserve succumbed to pressure to raise counterparty limits that were created for essentially the same reasons in connection with the overnight reverse repurchase agreement facility.¹⁵

Data Protection and Privacy

Any CBDC would require extraordinarily robust measures to protect consumer data. The Federal Reserve, were it to hold the CBDC data of customers of all financial intermediaries, could be an even more attractive target for cybercriminals than the current more fragmented system is today in which customer data is held at various institutions, making data protection of paramount importance.

As the IMF observed in a report issued this week “CBDC needs a strong cybersecurity posture (BIS 2023b). Cyberattacks can compromise end user data and funds, the central bank’s reputation, trust in money, and the stability of the payment system. The CBDC may be especially targeted for attacks, owing to its close affiliation with the jurisdiction’s government institutions, which certain state or nonstate actors may want to harm.”¹⁶

¹⁵ See Frost, Josh, Lorie Logan, Antoine Martin, Patrick McCabe, Fabio Natalucci, and Julie Remache (2015). “Overnight RRP Operations as a Monetary Policy Tool: Some Design Considerations,” Finance and Economics Discussion Series 2015-010. Washington: Board of Governors of the Federal Reserve System) ([link](#)). When the ON RRP was created, many were worried that the facility would amplify flights to safety by being an unlimited, risk-free investment alternative. To placate those concerns, use of the facility was capped at the aggregate and individual levels. In reality, in almost every instance in which the caps came close to binding, they were raised. The FOMC’s recent communications on the caps are illustrative: essentially, they have raised the caps precisely because the caps might bind. Moreover, as noted, the caps were put in place to placate those who were concerned that the facility would potentially be disruptive. Now that the facility is familiar, the Federal Reserve says about high usage – “The facility is doing what it is designed to do.” Based on this experience, it would seem appropriate to be deeply skeptical of proposals to put binding limits on CBDC accounts.

¹⁶ Gabriel Soderberg, John Kiff, Marianne Bechara, Stephanie Forte, Kathleen Kao, Ashley Lannquist, Tao Sun, Herve Tourpe, and Akihiro Yoshinaga, IMF Fintech Note “How Should Central Banks Explore Central Bank Digital Currency? A dynamic decision-making framework” at 15 (Sept. 2023) ([link](#)).

Designing a CBDC to preserve privacy yet effectively monitor criminal activity is a complex question that requires significant further study. Central banks and international bodies have considered this question and, in general, have concluded that there are potentially a range of options that could provide consumers with varying levels of privacy while also ensuring compliance with AML/CFT regulations, but that the answer to this question will turn on a number of factors, including the architecture of the CBDC, the parties involved in the CBDC ecosystem and the technologies used. For example, the Bank of Canada released a paper evaluating a continuum of options and concluded that:

The Bank could engineer a CBDC system with higher levels of privacy than commercial products can offer — but with trade-offs. Some combinations of requirements will not be feasible or may lead to high operational costs and excessive complexity and risk. Also, the user’s overall privacy will depend on factors such as user behaviour and the privacy policies of other entities in the CBDC ecosystem.¹⁷

The ECB tested a prototype and concluded that “in a simplified environment typical of a proof of concept, DLT can be used to balance an individual’s right to privacy with the public’s interest in the enforcement of AML/CFT regulations. It provides a digitalisation solution for AML/CFT compliance procedures whereby a user’s identity and transaction history are nevertheless hidden from the central bank and intermediaries other than that chosen by the user.”¹⁸

A BIS paper authored by several central banks, including the Federal Reserve, on CBDC interoperabilities concluded that “new developments in cryptography such as “zero-knowledge proofs”,

¹⁷ Sriram Darbha and Rakesh Arora, Bank of Canada, Staff Analytical Note 2020-9 “Privacy in CBDC technology (June 2020) ([link](#)). The Bank also noted that “[p]rivacy design can apply building blocks of varying maturity and trade-offs:

- **Group signatures** (Chaum and van Heyst 1991) allow a set of entities to transact while obscuring their identities, revealing only that “someone in the group” transacted.
- **Secret sharing** (Shamir 1979) or **multi-signature** (Itakura and Nakamura 1983) schemes can guarantee that sensitive data are disclosed only when an adequate number of entities (e.g., three of five) agree.
- **Zero-knowledge proofs** (Blum, Feldman and Micali 1988) can prove claims about data without revealing them (e.g., they can prove an account balance is adequate for a transaction without revealing the balance).
- **Homomorphic encryption** (Rivest, Adleman and Dertouzos 1978) allows mathematical operations on obscured data (e.g., payment of interest on a balance that is encrypted).
- **Multi-party computation** (Yao 1982) allows several entities to securely contribute their data to a combined dataset for fraud detection while keeping their data private from one another.
- **Differential privacy** (Dwork and Roth 2014) and **anonymization** are techniques that ensure personally identifiable information cannot be extracted from sensitive datasets. The data are rendered safe and private for uses such as research and data analytics.”

The Bank further stated that “[m]ore techniques not covered here could be explored by system designers for potential use: for example, private information retrieval (Chor et al. 1998) and deniable encryption (Canetti et al. 1997). Most of these are flexible enough to be used across a variety of technology platforms (e.g., centralized, DLT and device-based) and can be combined and customized to achieve fine-grained CBDC privacy goals.” Finally, the report noted that “[c]ryptographic techniques such as zero-knowledge proofs are in their infancy and remain areas of active research. The skill set needed to employ them is not as widely available as in more mature technical areas. Few systems have deployed these techniques in production, even in private industry. The risk here is that their technical complexity combined with their immaturity could mask vulnerabilities. Further, no known deployments have scaled up to a national population. The risk in this case is the unknown technical obstacles in applying these techniques to the Canadian population and beyond for future uses, such as micropayments at internet-of-things endpoints.”

¹⁸ ECB, “In Focus: Exploring Anonymity in Central Bank Digital Currencies” (Dec. 2019) at 3 (internal citation omitted) ([link](#)).

blind signatures, private decentralized networks, offline smartcards and the use of “layered” data management in payment systems are promising and could offer ways to enable a high degree of privacy whilst complying with existing AML and CFT standards. However, not all of them have been subjected to due cryptographic auditing, let alone stood the test of time. Implementing these techniques in CBDC may therefore require a significantly longer timeline.”¹⁹

Most recently, a Federal Reserve staff paper asserted that truly anonymous “cash-like” cryptoassets are likely unattainable, but that “the development of a comprehensive privacy strategy and a well-balanced selection of privacy technologies and techniques could collectively facilitate end user confidentiality while mitigating illegal activity risks.”²⁰ The paper also provided that “secure multi-party computations, fully homomorphic encryption and zero-knowledge proofs are three emerging technologies which could be employed as [privacy-enhancing technology] in a digital asset system.”²¹

Payments Efficiency

Some proponents of a U.S. CBDC claim that a CBDC would make domestic and cross-border payments systems more efficient. While perhaps relevant in some countries, this rationale for a CBDC seems increasingly inapt in the United States where The Clearing House’s RTP real-time payment system, operational since 2017, continues to grow in use, consumers happily pay each other with Zelle or Venmo and PayPal and Square thrive.

It also has been asserted that a CBDC would have allowed the Treasury to make stimulus payments to consumers more quickly during the COVID crisis, and to more people. Those payments were made through the ACH network for customers who had bank accounts, and paper checks for others. Those for whom the government had neither bank account information nor a physical address (probably because they had never filed a tax return) did not receive payments. We surmise those same individuals would be unlikely to have a digital wallet, and therefore the mere existence of a CBDC would not have allowed the government to locate people without accounts or known addresses any better. Certainly, if a customer set up a digital wallet with an intermediary, then a future stimulus payment could be made in the form of CBDC. However, with such an account established, payment could also be made in seconds through the existing RTP real-time payment system, or through the existing ACH system. Indeed, the Federal Reserve could modernize Fedwire by making it operational 24/365 rather than 22/249, which would further increase the speed of payments.

Inefficiencies in the current cross-border system are to some extent attributable to regulation for AML/CFT purposes, which a CBDC would not reduce, although remittance costs are dropping significantly despite these regulations as a result of competition in this arena.²² Further, other efforts are underway to improve cross-border payments outside of any potential CBDC issuance. Improving the

¹⁹ Bank of Canada, European Central Bank, Bank of Japan, Sveriges Riksbank, Swiss National Bank, Bank of England, Board of Governors Federal Reserve System, Bank for International Settlements, “Central bank digital currencies: system design and interoperability (September 2021) at 8 ([link](#)).

²⁰ Mascelli, Jillian (2023). “Data Privacy for Digital Asset Systems,” Finance and Economics Discussion Series 2023-059 at 21. Washington: Board of Governors of the Federal Reserve System ([link](#)).

²¹ Mascelli, Jillian (2023). “Data Privacy for Digital Asset Systems,” Finance and Economics Discussion Series 2023-059 at 11. Washington: Board of Governors of the Federal Reserve System ([link](#)).

²² Spencer Tierney, “Wise Money Transfer Review,” Nerd Wallet (updated Aug. 2, 2022) ([link](#)).

existing cross-border payments system is a key priority of the FSB, which has devoted and indicated it will continue to devote significant resources to this effort. Most notably, The Clearing House, EBA CLEARING and SWIFT announced last year that the Immediate Cross-Border Payments (IXB) pilot service that will leverage RTP in the United States, run by TCH, and RT1 in Europe, run by EBA CLEARING, will begin processing the first live transactions in the euro and U.S. dollar currency corridor in the coming months; it is being designed with the contribution of 25 financial institutions.²³ Again, if the Federal Reserve wished to assist in these and other efforts to modernize payments, it could finalize plans announced in 2018 to convert Fedwire to a 24/365 system.

As for the role of a CBDC in cross-border payments, several wholesale CBDC pilots are underway globally. Indeed, the New York Fed has undertaken *Project Cedar*, “a multiphase research effort to develop a technical framework for a theoretical wholesale central bank digital currency in the Federal Reserve context.”²⁴ Most recently, in May of this year, the Federal Reserve Bank of New York and the Monetary Authority of Singapore published a research report detailing the results of the joint Project Cedar Phase II x Ubin+ experiment, which “examined whether distributed ledger technology (DLT) could be used to improve the efficiency of cross-border wholesale payments and settlements involving multiple currencies.”²⁵ The experiment “demonstrated that DLT could support enhancements to cross-border multi-currency payments and settlements. The findings addressed three key pain points related to network interoperability and autonomy, settlement, and speed:

- **Interoperability and Autonomy:** The Cedar x Ubin + experiment interlinked the distinct central bank currency ledgers, providing flexibility in the design and operation of each ledger to the respective central bank. This enabled payments to be safely executed across multiple ledgers without the need for a central clearing authority or the establishment of a shared central network.
- **Atomic Settlement:** The simulated payments were settled atomically, meaning transactions were only settled if all legs in the cross-currency payment chains were executed successfully. This improved the certainty of settlement, addressing existing pain points such as counterparty risks.
- **Near Real-Time Settlement:** Each simulated payment scenario achieved end-to-end settlement in under thirty seconds on average. This enabled participants to be notified of a payment’s success in a matter of seconds.

The study revealed research areas for future experimentation and analysis, including around the viability of the network solution to manage transaction volumes at scale, with potentially, an increase in payments settled per second and the involvement of additional currencies supported by their corresponding central bank ledgers.”²⁶

²³ See “Immediate Cross-Border Payments (IXB) Pilot Set to Revolutionize International Payments” (Oct. 5, 2022) ([link](#)).

²⁴ Federal Reserve Bank of New York Press Release: “New York Fed Announces Phase I Results of the New York Innovation Center’s Project Cedar” (Nov. 4, 2022) ([link](#)).

²⁵ Federal Reserve Bank of New York Press Release: “New York Fed and Monetary Authority of Singapore Publish Results of Joint Wholesale Cross-Border Payments Research Study” (May 18, 2023) ([link](#)).

²⁶ *Id.*

Thus, further research is required before drawing any conclusions about the potential benefits of a CBDC in enhancing cross-border payments efficiency. In addition, by the time CBDCs would be in circulation, other cross-border solutions likely will be in place.

Moreover, further consideration should be given to whether a wholesale CBDC would even be necessary. A Federal Reserve staff research paper issued just last week explored whether a new settlement asset in the form of central bank money is essential for a new platform that processes wholesale payment transactions and argued that a new settlement asset in the form of central bank money is not essential for a tokenized wholesale payment system.²⁷

Confidence in the U.S. Dollar

Some have posited that a foreign CBDC could threaten the dollar's reserve currency status. However, the dollar's prominent role in the global economy rests on several foundations, including:

- The strength and size of the U.S. economy;
- Extensive trade linkages between the United States and the rest of the world;
- Deep financial markets, including for U.S. Treasury securities; the stable value of the dollar over time;
- The ease of converting U.S. dollars into foreign currencies;
- The rule of law and strong property rights in the United States; and
- Credible U.S. monetary policy.

Indeed, Chairman Powell has reiterated many of the arguments presented above as to why one should not be concerned about the threat of a foreign currency overtaking U.S. dollar supremacy.²⁸ Last year, Acting Comptroller Hsu stated that because of the architecture of the United States' monetary and financial system, in which central bank money and commercial bank money are fungible, "combined with the strength of the rule of law in America and the dynamism of our economy, has supported the role of the U.S. dollar as the world's reserve currency."²⁹ Further, given that the dollar is currently the reserve currency, a move to another currency — even a digital one — would be burdensome and inconvenient in practice.

Lastly, and at the risk of stating the obvious, recent geopolitical events demonstrate that the dollar's role as the reserve currency will be determined by factors other than whether it takes the form of digital commercial bank money or digital CBDC.

Competition With Stablecoins

The promise of increased efficiency and security and reduced costs and other benefits of blockchain technology have led to demand for blockchain-based "cash equivalents" that can be used as

²⁷ Jon Durfee, Jesse Leigh Maniff, and Priyanka Slattery, "Examining CBDC and Wholesale Payments" (September 8, 2023) ([link](#)).

²⁸ Powell, Jerome, transcript of Federal Open Market Committee press conference (April 28, 2021) ([link](#)).

²⁹ Acting Comptroller of the Currency Michael J. Hsu, Remarks Before the Institute of International Economic Law at Georgetown University Law Center, "Thoughts on the Architecture of Stablecoins" at 4 (April 8, 2022) ([link](#)).

a means of payment and a store of value, which has in part spurred the discussion of whether the U.S. (and other countries) should issue a CBDC, for example, and led some to advocate for nonbank issued stablecoins. And some have cited a need to compete with so-called stablecoins as a reason to develop a CBDC. There are three general types of stablecoins currently. The first type — the so-called “unstable stablecoin” — is backed by assets like corporate debt and asset-backed securities and is thus similar to prime money market funds.³⁰ They pose systemic risk, as they are susceptible to runs, and their interlinkage with crypto markets heightens that risk. The second type are the “algorithmic” stablecoins that pose similar run risk.³¹ A CBDC has not been suggested as an answer to these problems; rather, the answer is universally agreed to be better regulation, disclosure and enforcement of existing laws.³² Indeed, if the financial stability risks arising from these stablecoins’ structural flaws are not fixed, providing a CBDC will not be sufficient to safeguard financial stability.

The third type of stablecoin that has been proposed — the so-called “stable stablecoin,” which would be backed solely by cash, government securities, or repos backed by government securities, would make it safer than the other two types. Some have proposed that these more stable stablecoins could serve as a payments mechanism. It was concern over possible widespread use of these types of private sector digital currencies — particularly Facebook’s Libra stablecoin proposal — that served as a catalyst for increased research around a possible CBDC.³³ Policymakers were concerned about the potential for Facebook to use its Libra stablecoin to move finance outside of the banking system, disintermediating the dollar. However, Facebook has abandoned its stablecoin project and sold its stablecoin subsidiary, which was renamed Diem, to Silvergate Bank; Silvergate voluntarily wound down earlier this year.³⁴ Facebook, since renamed Meta, also had launched in 2020 a money transfer pilot for crypto-based remittances named Novi between the United States and Guatemala, but Meta shut down Novi in September 2022.³⁵ Although Facebook/Meta has abandoned its stablecoin plans, were another “stable” stablecoin — one backed by government securities and short-term Treasuries — to grow at scale, it would pose similar concerns as an intermediated CBDC: namely that investors would run *to*, not *from*, it, particularly in times of financial instability.

³⁰ Baer, Greg, “Making Stablecoins Stable: Is the Cure Worse than the Disease?” Bank Policy Institute (Sept. 27, 2021) ([link](#)).

³¹ These stablecoins generally “use an algorithm or smart contract to manage the supply of tokens and guide their value to some reference asset.” Congressional Research Service, Insight, “Algorithmic Stablecoins and the TerraUSD Crash,” (May 16, 2022) ([link](#)). These stablecoins also present run risk, and indeed, earlier this month, an algorithmic stablecoin lost its dollar peg, triggering a run on crypto, erasing over \$400 billion in crypto market capitalization. Chow, Andrew R. “The Real Reasons Behind the Crypto Crash, and What We Can Learn from Terra’s Fall,” Time, (May 17, 2022) ([link](#)).

³² See, e.g., The President’s Working Group on Financial Markets (PWG), the Federal Deposit Insurance Corporation, and the Office of the Comptroller of the Currency, “Report on Stablecoins,” (Nov. 1, 2021) ([link](#)); White House, “Executive Order on Ensuring Responsible Development of Digital Assets” (March 9, 2022) ([link](#)); and Remarks from Secretary of the Treasury Janet L. Yellen on Digital Assets, U.S. Department of the Treasury (April 7, 2022) ([link](#)).

³³ See Speech by Governor Lael Brainard, “Private Money and Central Bank Money as Payments Go Digital: an Update on CBDCs” to the Consensus by CoinDesk 2021 Conference (May 24, 2021) ([link](#)) (noting that the growing role of digital private money is one reason that the Federal Reserve is “sharpening” its focus on CBDC and that a CBDC may increase payment system resilience “relative to a payments system where private money is prominent.”).

³⁴ See Sam Sutton and Victoria Guida, “Facebook’s crypto project sold after political backlash,” Politico, (Jan. 31, 2022) ([link](#)); See also Silvergate Press Release: “Silvergate Capital Corporation Announces Intent to Wind Down Operations and Voluntarily Liquidate Silvergate Bank” (March 8, 2023) ([link](#)).

³⁵ See Notice on Facebook’s website “The Novi pilot has ended” (Sept. 1, 2022) ([link](#)).

Yet, there has not been significant customer demand for a retail payment stablecoin. Banks' customers appear satisfied using ACH transfers,³⁶ debit cards and credit cards.³⁷ Moreover, private sector innovations that have increased the speed and efficiency of payments, such as RTP, Zelle and Venmo, continue to attract customers and grow in usage.³⁸ Thus, there does not appear to be a current need to establish a CBDC to compete with a dollar stablecoin. Furthermore, even if in the future a stablecoin did grow in scale in both the online and physical worlds, it is not clear that a CBDC would be preferable over a properly regulated stablecoin issued under a federal prudential framework (which is akin to a deposit token), as described in the report issued by the President's Working Group on Financial Markets joined by the FDIC and OCC.

Banking Sector Innovation

Banks stand ready to meet the demand for a blockchain-based "cash equivalent" instrument that can be used as a means of payment and a store of value that has fueled, in part, interest in CBDCs and nonbank stablecoins. Banks can offer these benefits within the safety of the regulatory perimeter. However, the federal banking regulators do not appear to appropriately distinguish between traditional bank activities using DLT or blockchain, such as tokenizing existing bank liabilities (deposits) or securities, and non-bank issued cryptocurrencies, which present very different risks given the inherent design of the various activities.³⁹

To ensure that consumers are protected, and the United States remains a competitive player in the global financial services ecosystem, the government should work with the private sector to begin research, experiments and simulations around discrete use cases of DLT and blockchain technology in the banking sector.

Under the existing regulatory framework and effective robust risk management function of banks, traditional banking activities using new technology are well-managed by banks with well-established controls for product development, and banks can manage the risks of traditional banking activities using DLT or blockchain.

³⁶ The modern ACH Network experienced significant growth in 2022 and "safely and efficiently processed 30 billion payments valued at \$76.7 trillion in 2022, increases of 3% and 5.6% respectively over 2021," marking "the tenth consecutive year in which the total value of ACH payments increased by at least \$1 trillion." See NACHA, "ACH Network Moves 30 Billion Payments, \$77 Trillion in 2022 Led by Growth in Same Day ACH and B2B" (Feb. 22, 2023) ([link](#)).

³⁷ See Nilson Report, "Visa and Mastercard Cards in the US — 2022." "Visa and Mastercard consumer and commercial credit, debit and prepaid cards issued in the US generated \$8.272 trillion in purchase volume in 2022, up 12.0% from 2021. Purchase volume for all Visa card products combined grew by 11.9% to \$5.830 trillion. Purchase volume for all Mastercard card products combined grew by 12.2% to \$2.441 trillion" ([link](#)).

³⁸ The Clearing House's RTP network surpassed 1-Million Payments on a Single Day on September 1, 2023, and currently transacts more than 60 million transactions each quarter. See TCH Press Release: "RTP® Network Surpasses 1-Million Payments on a Single Day" (Sept. 6, 2023) ([link](#)).

³⁹ There are different types of DLT/blockchain networks that vary in breadth of access and control. Public, permissionless blockchains allow anyone to access the network and engage with it, but within public blockchain infrastructures, permissions may be imposed on interactions with certain smart contracts deployed on the infrastructure, while within private, permissioned blockchains, access is limited to parties with appropriate entitlements. These types of networks present different levels of risk. The existing regulatory framework and banks' risk management practices enable banks to manage the risks presented by permissioned networks. Policymakers should consider further study of risk identification and management with respect to permissionless blockchains, which could potentially support the development of appropriate tools, such as digital identity or "verifiable credentials," that could make public blockchain more safe and secure so that banks and other commercial segments, as well as consumers, could potentially avail themselves of the benefits of such technology. Such benefits may include greater interoperability among bank systems, enhancement in information communication, and a reduction to barriers and costs in cross-border payments. For example, the Monetary authority of Singapore's Project Guardian will "develop and pilot use cases in four main areas," including exploring "the use of public blockchains to build open, interoperable networks that enable digital assets to be traded across platforms and liquidity pools. This includes interoperability with existing financial infrastructure" ([link](#)).

Using new technologies, banks have made significant progress in developing products and services that could benefit consumers and the financial system, consistent with the banks' safe and sound operation.⁴⁰ For example, banks have come to recognize that DLT is a secure method of recordkeeping that may have the potential to drive efficiencies, decrease transaction times, and reduce systemic risk. Banks' blockchain-based deposit accounts⁴¹ have been used to clear and settle repo trades and conduct inter-affiliate, intra-company transfers.⁴² Blockchain technology has also been used to facilitate information sharing across financial institutions where such information is required to clear or validate payments.⁴³

Banks are also planning to use deposit tokens to facilitate traditional trading and market activity, including spot transactions, lending, and collateral management. Blockchain-based deposits enable "advanced programmability features, the ability to exchange funds with other digital assets atomically, and the transfer of commercial bank money on shared or universal ledgers where enhanced transparency of transactions and 24/7 transfer availability are possible."⁴⁴ Digital assets, though they may carry varying levels of risk, are often nevertheless broadly categorized into a single group in today's environment.

Traditional banking products and activities utilizing DLT, blockchain or other novel technologies do not present the risks presented by nonbank-issued crypto assets. Banks appropriately manage any technology-related risks in connection with standard internal recordkeeping functions and tokenizing traditional banking products. Banks use technology only if they determine the associated risks could be appropriately managed consistent with their risk appetites and risk management capabilities. Banks' management of dynamic cyber risks provides an example of how regulated financial institutions are able to evolve controls to mitigate new risks. Federally-insured banking organizations are subject to

⁴⁰ Examples of banks' innovation include the Regulated Liability Network proof of concept to tokenize commercial bank, central bank, and electronic money on the same chain, which offers the promise of delivering a next-generation digital money format based on national currency units (e.g., denominated in U.S. dollars). See Press Release, Members of the U.S. Banking Community Launch Proof of Concept for a Regulated Digital Asset Settlement Platform (Nov. 15, 2022) ([link](#)). As another example, Partior, a shared-ledger multicurrency clearing platform, was launched as a technology company by JPMorgan, DBS, and Temasek in 2021. See Press Release, JPMorgan Chase & Co., DBS, J.P. Morgan and Temasek to Establish Platform to Transform Interbank Value Movements in a New Digital Era (Apr. 28, 2021) ([link](#)). Partior is designed to perform atomic clearing and settlement on a 24x7 basis among participating institutions using blockchain and smart-contract technology. See "Partior Aims to Become the World's Ledger for Banks", DigFin (May 15, 2022) ([link](#)); "The Global Ambitions of Partior, the JP Morgan, DBS Blockchain Payment System", Ledger Insights (Nov. 16, 2022) ([link](#)).

⁴¹ Banks are authorized to issue tokenized deposits, establish blockchain-based deposit accounts, and issue stablecoins, as governed under existing federal banking agency regulations and managed via banks' risk management systems. See, e.g., Office of the Comptroller of the Currency, *OCC Chief Counsel's Interpretation on National Bank and Federal Savings Association Authority to Use Independent Node Verification Networks and Stablecoins for Payment Activities*, Interpretive Letter No. 1174 (Jan. 4, 2020) ([link](#)); Board of Governors of the Federal Reserve System, SR 23-8 / CA 23-5: Supervisory Nonobjection Process for State Member Banks Seeking to Engage in Certain Activities Involving Dollar Tokens (Aug. 8, 2023) ([link](#)). See also TCH, *Bank Issuance of Stablecoins and Related Services: Legal Authority and Policy Considerations* (Nov. 2022) ([link](#)) (provided by Sullivan & Cromwell LLP at TCH's request).

⁴² Blockchain deposits can exist in four forms: non-native deposit accounts, native deposit accounts, non-native token-based and native token-based. Tokenized deposits can be native or non-native. For purposes of this response, the term "tokenized deposit" refers to both native and non-native token-based blockchain deposits. See Oliver Wyman and Onyx by JPMC Report: "Deposit Tokens: A foundation for stable digital money," at 14 (Feb. 9, 2023) ([link](#)).

⁴³ For example, Liink by JP Morgan Onyx allows a bank sending a payment to pre-validate with the receiving bank that it is sending payment to a valid open account, avoiding prolonged payment processing and rejection for invalid accounts ([link](#)).

⁴⁴ See Oliver Wyman and Onyx by JPMC Report: "Deposit Tokens: A foundation for stable digital money," at 14 (Feb. 9, 2023) ([link](#)). For example, banks participated together in Partior and in the Monetary Authority of Singapore's project Guardian's "institutional DeFi" protocol ([link](#)).

comprehensive regulation, supervision, and examination for compliance with prudential, consumer protection, and data privacy requirements, among others. Larger banking organizations have separate examinations of, among other areas, custody and technology.⁴⁵ Adherence to these standards is monitored by on- and offsite banking agency examiners.

These requirements make certain bank applications of DLT, such as tokenizing deposits, safer use cases than many other current (stablecoin) applications of the technology. However, guidance issued by the regulators currently suggests that they may view the risks presented by banks' use of DLT and blockchain as akin to those presented by nonbank-issued cryptoassets, which could slow the pace of banks' ability to engage in responsible innovation in this space. In particular, guidance issued by the federal banking agencies requires banking organizations to provide advance notice, and if applicable, receive supervisory nonobjection based on an evaluation of the adequacy of risk management systems and controls before conducting certain traditional banking activities using DLT or blockchain, hindering responsible innovation.⁴⁶

Policymakers, in particular, the federal banking agencies, should study how banks are able to appropriately manage the risks presented by permissioned DLT, blockchain, or other novel technologies in connection with traditional banking products such as deposits and securities, and for internal recordkeeping and eliminate the requirement that banks provide prior notice, or, in some cases, obtain prior approval, before engaging in those activities. Any concerns may be addressed through the normal supervisory process, as is the case with all of a banking organization's operations.

Policymakers should study the impact of the banking regulators' conflation of the risks of different types of DLT/blockchain networks and digital asset products on the United States's competitive position in global financial markets, including potential implications if U.S. banks are unable to support digital clearing and settlement activities. For example, some firms have launched innovative banking and financial products and services in other countries due to the uncertain regulatory environment in the United States for conducting such activities.⁴⁷

Policymakers should also consider studying the impact of the banking regulators' limitations on banks' involvement in certain digital asset activities on consumers. The public and the financial system *benefit* from banks' involvement in the activities described in the Interpretive Letters. If regulated

⁴⁵ This supervisory oversight includes the robust evaluation of information technology risk management, internal controls, and cybersecurity risk management. Banking organizations also must meet regulatory expectations with respect to other operational resiliency obligations and recovery and resolution planning mandates. Banking organizations are subject to exams that evaluate how well management addresses risks related to the availability of critical financial products and services, including risks arising from cyber events. Management must also ensure the adoption of processes to oversee and implement resiliency, continuity, and response capabilities to safeguard employees, customers, and products and services. See Federal Financial Institutions Examination Council, FFIEC Information Technology Examination Handbook: Business Continuity Management (Nov. 2019) ([link](#)).

⁴⁶ See OCC Interpretive Letter No. 1179, Chief Counsel's Interpretation Clarifying: (1) Authority of a Bank to Engage in Certain Cryptocurrency Activities; and (2) Authority of the OCC to Charter a National Trust Bank (Nov. 18, 2021) ([link](#)); FDIC, FIL-16-2022, Notification of Engaging in Crypto-Related Activities (April 7, 2022) ([link](#)); Board of Governors of the Federal Reserve System, "Engagement in Crypto-Asset-Related Activities by Federal Reserve-Supervised Banking Organizations", SR 22-6 / CA 22-6 (Aug. 16, 2022) ([link](#)); Board of Governors of the Federal Reserve System, Policy Statement on Section 9(13) of the Federal Reserve Act, 88 Fed. Reg. 7848 (February 7, 2023); 12 CFR 208.112 ([link](#)); Board of Governors of the Federal Reserve System, SR 23-8 / CA 23-5: Supervisory Nonobjection Process for State Member Banks Seeking to Engage in Certain Activities Involving Dollar Tokens (Aug. 8, 2023) ([link](#)).

⁴⁷ For example, HSBC recently launched the Orion platform, a bond tokenization initiative, in Luxembourg. The security would be both issued and registered under Luxembourg law ([link](#)).

banking organizations are effectively precluded from providing traditional services using novel technologies, such as issuing dollar tokens, investors and customers and ultimately the financial system will be worse off; the market would then be limited to providers that do not afford their customers the legal and supervisory protections provided by federally-regulated banking organizations.

Financial Inclusion

One of the most frequently cited reasons in support of a CBDC is that it would increase financial inclusion. We recognize that a CBDC might improve financial inclusion in some countries, particularly in less industrialized nations that do not have access to a strong national currency or competitive, safe and reliable payments services that more industrialized nations do.⁴⁸ While many CBDC supporters have asserted this benefit with respect to the United States, we are unaware of any substantiated use case for CBDC that would benefit low- and moderate-income people.

According to a 2021 FDIC survey, an estimated 4.5 percent of U.S. households (approximately 5.9 million) were “unbanked” in 2021, the lowest percentage since the survey began in 2009.⁴⁹ Furthermore, between 2011—when the unbanked rate was at its highest level since the survey began—and 2021, the unbanked rate fell 3.7 percentage points, corresponding to an increase of approximately 5.0 million banked households.⁵⁰

A significant number of respondents to the FDIC survey provided the following as their main reasons for not having a bank account: “Don’t have enough money to meet minimum balance requirements” was cited by 21.7 percent of unbanked households as the main reason for not having an account—the most cited main reason; “Don’t trust banks” was the second-most cited main reason for not having an account in 2021 (13.2 percent), “Avoiding a bank gives more privacy” was the third-most cited main reason (8.4 percent). Respondents also cited “Bank account fees are too high” (6 percent) and “Banks account fees are too unpredictable” (1.5 percent).⁵¹

An intermediated CBDC is unlikely to address such concerns. The 13.2 percent of people who do not trust banks and the 8.4 percent who seek privacy likely would not be inclined to use an intermediated CBDC, as they would have to adopt a digital wallet provided by either a bank or a technology company. The government also may have some view into their financial transactions. Thus, it seems, regardless of its features, this 21.6 percent of the unbanked likely would be unsatisfied with a CBDC. For those who are unbanked because they are undocumented or are paid in cash and are concerned that a bank may report their status or transactions to the government, a government-issued CBDC likely would hold even

⁴⁸ See Raphael Auer, Holti Banka, Nana Yaa Boakye-Adjei, Ahmed Faragallah, Jon Frost, Harish Natarajan and Jermy Prenio, Financial Stability Institute of the Bank for International Settlements, “Central bank digital currencies: a new tool in the financial inclusion toolkit?,” FSI Insights on policy implementation No 41 (April 2022) at 6 ([link](#)). Noting that “in many [emerging market and developing economies] and some [advanced economies] there is limited competition in the financial sector. This results in high markups (margins) by banks and other financial institutions, visible in a high cost of executing payments and a large wedge between lending and deposit rates for households and businesses. In many cases, low efficiency may mean that it is not profitable to serve low-income users, and a lack of competition among incumbent financial institutions can mean high prices and poor services.” However, as discussed further herein, there is a robust and vibrant competitive marketplace in the United States for payments and other banking and financial services, and thus a CBDC is not necessary to enhance competition in this market. See also BPI’s response to the CFPB’s Request for Information on Junk Fees (March 31, 2022) ([link](#)).

⁴⁹ See 2021 FDIC National Survey of Unbanked and Underbanked Households ([link](#)).

⁵⁰ *Id.*

⁵¹ See 2021 FDIC National Survey of Unbanked and Underbanked Households, Executive Summary at 2-3 ([link](#)).

less appeal than a traditional bank account. And, again, an intermediated CBDC would require use of a bank or tech company.

For the 29.2 percent of respondents that do not have enough money to meet minimum balance requirements or for whom fees are too high or unpredictable, an intermediated CBDC would not be costless, given the services that private sector intermediaries would be expected to provide. Thus, a CBDC would not necessarily address the concerns about minimum balances or bank fees cited by some as reasons for not having a bank account.

Moreover, a CBDC is not necessary to address these concerns. In the United States, banks have led numerous efforts, through both technological innovations and more traditional expansion of banking products and services, to meet consumer demand, improve the speed and security and reduce the cost of financial products and services, and advance financial inclusion. Payment system improvements, including instant payments and faster settlement and funds availability, have grown substantially in recent years, providing benefits to consumers, small businesses, and the financial system more broadly. Banks have led technological advancements to increase the speed and lower the cost of payments. One example is the Clearing House's launch of RTP in November 2017. Over 350 financial institutions are providing real-time payments on the RTP network to their customers and members, and the RTP network surpassed the 500 million payment milestone in July 2023.⁵² 150,000 businesses are sending payments over the RTP network, and over 3 million consumers each month are sending account-to-account and Zelle payments that clear and settle over the RTP network.⁵³ Banks of all sizes use RTP; indeed, 90 percent of the FIs on the RTP network are community banks and credit unions with less than \$10 billion in assets, and the RTP network currently reaches 65 percent of US demand deposit accounts.⁵⁴

Another example of bank-led innovation is the establishment of Zelle, a bank-owned, peer-to-peer, payments service offered by participating banks and credit unions. Zelle provides messaging between the sender's bank and the recipient's bank to facilitate payments between the sender/recipient's respective bank accounts, and funds are available almost immediately.

Real time payments and faster settlement and funds availability can provide customers immediate access to funds from cash advances, loan proceeds, or in emergency situations, such as payments from an insurance company to cover initial expenses arising from a home fire, auto accident or other disaster anytime, regardless of the time of day or whether it is a weekend or holiday. Faster payments also allow consumers to better manage their finances and cash flows, as settlement is instant, and consumers can obtain an accurate, up-to-date account summary immediately after sending a payment, which enables them to avoid problems that can arise from lags between payment authorization and final settlement. In addition, since payments are not restricted to normal business hours, consumers can make payments up until the last minute they are due and thereby avoid late fees. Faster payments allow small businesses to send funds to other businesses, vendors, or other

⁵² TCH Press Release: "RTP Network Surpasses Half a Billion Instant Payments" (July 24, 2023) ([link](#)).

⁵³ *Id.*

⁵⁴ *Id.*

counterparties, as well as to pay employees, with immediate funds availability and without limitation as to when those payments can be sent.⁵⁵

Banks are constantly adopting new technology to improve the way in which they serve and protect their customers and engage in their businesses. But technological innovations are not the only way that banks are advancing financial inclusion. Indeed, low-cost banking accounts are proliferating. Bank On is a national program with the goal of ensuring that everyone has access to a safe and affordable bank or credit union account. It comprises local partnerships of city, state, and federal government agencies, financial institutions and nonprofit organizations, which are joined nationally under the leadership of the Cities for Financial Empowerment Fund.⁵⁶ The account standards include a minimum opening deposit of \$25 or less, and no or low (\$5 or less) monthly maintenance fee.⁵⁷ They do not permit penalty fees for overdrafts, non-sufficient funds, low balances or account dormancy.⁵⁸ Accounts may allow for negative balances, but customers cannot be charged fees if this occurs.⁵⁹

According to the most recent data about Bank On, there are now over 375 Bank On nationally certified accounts, offered by banks and credit unions representing over 60 percent of the domestic deposit market; more than half (53 percent) of all US bank branches offer a Bank On certified account.⁶⁰ More than 14 million Bank On-certified accounts have been opened to date across this year's 28 reporting institutions, a 67 percent increase from the previous reporting year, and, of those, over 5.8 million accounts were open and active in 2021; Bank On accounts have been opened in more than 35,000 ZIP codes, or 85 percent of all U.S. ZIP codes.⁶¹

Based on this 2021 data, BPI found that neighborhoods with over 50 percent minority representation, which make up 13 percent of all neighborhoods, accounted for 32 percent of ever-opened accounts, underscoring the positive effect of Bank On transaction accounts on minority communities.⁶² Similarly, the 2021 data shows that neighborhoods with over 50 percent low- to moderate-income households, which make up 20 percent of all neighborhoods, represented 40 percent of ever-opened accounts.⁶³

⁵⁵ Banks also have been key participants in the private sector-led development of secure consumer financial data sharing in the U.S. that has enhanced competition in the consumer financial services marketplace and allowed consumers to connect to the financial services applications of their choice, expanding access to financial products and services. Critically, the private sector has led this innovation while also developing more sophisticated data protection capabilities, enabling consumers to *safely* share their data. This work has primarily occurred through the Financial Data Exchange, a nonprofit organization established in 2018 and operating in the United States and Canada. See FDx ([link](#)). Through FDx, stakeholders have adopted standards that empower consumers to exercise control over their data and ensure that data is shared safely and securely, prioritizing consumer protection and privacy.

⁵⁶ See BankOn ([link](#)).

⁵⁷ BankOn account standards ([link](#)).

⁵⁸ *Id.*

⁵⁹ *Id.*

⁶⁰ Bank On and CFE Fund Press Release, "Country's Top Banking Regulators Celebrate Growth of National Safe Banking Partnership (May 23, 2023) ([link](#)).

⁶¹ The Federal Reserve Bank of St. Louis, "The Bank On National Data Hub: Findings from 2021" (December 13, 2022) ([link](#)).

⁶² Paul Calem and Yasmeen Abdul-Razeq, BPI, "'Bank On' Transaction Accounts and Financial Inclusion: New Data Shows Continuing Success" (July 25, 2023) ([link](#)).

⁶³ *Id.*

Given these facts, it is difficult to understand why a person who chooses not to establish a low-cost banking account would instead establish a digital wallet at a bank or other intermediary to hold a CBDC. The incentive would be further diminished given that the CBDC is unlikely to pay interest and the account might come with fees. Thus, a CBDC appears to be no answer to a diminishing problem. The Federal Reserve should recognize that a CBDC is not a talismanic solution to financial inclusion.

Monetary Policy

In addition, policymakers should study the effect that a CBDC could have on monetary policy. A CBDC could have two potential monetary policy benefits:

- If the CBDC could pay negative interest, and if access to paper currency were limited, the Fed may be able to set interest rates as negative as necessary to stimulate growth; and
- If it paid interest, it could increase Fed control of interest rates: If everyone had access to the CBDC, no one would lend at less than the CBDC interest rate.

Adopting a CBDC would have two potential monetary policy benefits. The most significant is the potential for interest rates to no longer be constrained by the zero-lower bound (ZLB), assuming that a CBDC could pay negative interest and paper currency were eliminated. That is, everyone would be required to hold CBDC instead of cash, and some of the amount in each individual or business's digital wallet would evaporate each day as the negative interest rate was "earned." As a consequence, the Federal Reserve could reduce interest rates as far as needed in the event of a deflationary spiral. In addition, a CBDC that paid interest could increase the Federal Reserve's control of interest rates, especially as the FOMC tightens monetary policy by lifting interest rates above zero: If everyone had access to the CBDC, no one would lend at less than the CBDC interest rate.

On the monetary-policy cost side, a CBDC could lead to rapid and huge reductions in reserve balances (the deposits of commercial banks and other depository institutions at the Federal Reserve) when there is a flight to quality, driving up money-market interest rates and potentially destabilizing financial markets. To prepare for such swings in reserve balances, and to accommodate the potential demand for CBDC, the Federal Reserve would have to maintain a much larger balance sheet in normal times than it does now, possibly more than one-third of GDP. If investors in banks and other corporations shifted into CBDC in stress periods, the Fed would also need to replace the lost funding by lending potentially huge sums to banks and nonbank financial institutions. Moreover, because the inflow into CBDC would exceed the new loans to financial institutions, the Fed would also likely have to purchase large amounts of government securities.

Also on the cost side, negative interest rates on cash could make a CBDC unattractive to potential holders, resulting in low uptake and thus potentially frustrating the general acceptance of the CBDC as a transaction mechanism. If the CBDC did not pay negative interest and so did not enable a central bank to break through the ZLB, the monetary policy benefits would be modest, while the costs could still be considerable. If households were given a limited tranche of CBDC that paid an interest rate that could not go below zero, some of the monetary policy benefits of CBDC could potentially be achieved, and some of the costs lessened; however, the significant costs associated with flights to quality would

remain. In sum, it is not clear that a CBDC in the United States would help the Fed, on net, to conduct monetary policy.

In addition, as noted previously, too much programmability to facilitate negative interest rates could impact the fungibility of CBDC with conventional currency, which could result in different valuations of a conventional dollar and a CBDC, thereby frustrating the ability to net or setoff CBDC obligations with conventional currency obligations. Indeed, policymakers should consider the importance of the Federal Reserve's ensuring that a CBDC would be completely interchangeable with traditional currency to avoid creating two classes of dollars.

Conclusion

Innovation in the financial services marketplace over the last several years has yielded significant benefits for consumers and the financial system, including the ability to make faster payments and new forms of digital money. This innovation also has spurred a substantial volume of research about the potential benefits and risks of CBDCs by governments around the world.

To date, we have seen little evidence that a CBDC would bring measurable benefits to the U.S. economy or to consumers and substantial evidence that it could present serious risks to financial stability. Because a CBDC could undermine the commercial banking system in the United States and severely constrict the availability of credit to the economy, we agree with the Federal Reserve's conclusion that it should only take further steps toward developing a CBDC "if research points to benefits for households, businesses, and the economy overall that exceed the downside risks, and indicates that CBDC is superior to alternative methods" and only with legislative authorization and the support of the Executive Branch.