BANK POLICY INSTITUTE

May 20, 2022

Via Electronic Mail

Ann E. Misback
Secretary
Board of Governors of the Federal Reserve System
20th Street and Constitution Avenue, N.W.
Washington, D.C. 20551

Re: "Money and Payments: The U.S. Dollar in the Age of Digital Transformation"

Ladies and Gentlemen:

The Bank Policy Institute[1] appreciates the opportunity to comment on the Board of Governors of the Federal Reserve System's report "Money and Payments: The U.S. Dollar in the Age of Digital Transformation." 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."[2] 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." In addition, for both legal and policy reasons, we agree that the Board should only pursue a CBDC with the consent of both the executive and legislative branches.

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.[3] In short, by attracting deposits away from banks, particularly during a period of economic stress, a CBDC likely would undermine the

[1] BPI is a nonpartisan public policy, research and advocacy group, representing the nation's leading banks and their customers. Our members include universal banks, regional banks and the major foreign banks doing business in the United States. Collectively, they employ almost 2 million Americans, make nearly half of the nation's small business loans and are an engine for financial innovation and economic growth.

[2] Board of Governors of the Federal Reserve System, "Money and Payments: The U.S. Dollar in the Age of Digital Transformation" (Jan. 14, 2022), available at: The Fed - Money and Payments: The U.S. Dollar in the Age of Digital Transformation (federalreserve.gov).

[3] *Money and Payments* at 17.

commercial banking system in the United States, and severely constrict the availability of credit to the economy in a highly procyclical way.

Furthermore, many of the potential benefits cited by proponents of a CBDC are uncertain, and, moreover, many are mutually exclusive and thus could not be realized simultaneously.[4] For example, one of the most frequently cited reasons in support of a CBDC is that it would increase financial inclusion, yet, as discussed further below, we are unaware of any substantiated use case for CBDC that would benefit low- and moderate-income people.

While there are many different architectures that a CBDC could take, the Federal Reserve's paper only considers an intermediated, account-based model. (This approach is understandable given serious policy and operational problems with the alternative token-based approach.)[5] Consumers would hold their CBDC at an account at a bank or other intermediary, similar to the way a trust bank holds a security for a customer. The intermediary would have to provide CBDC 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, and any future system with a CBDC, in which customers' CBDC 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 should strive to rectify.[6]

Under the intermediated approach under consideration, the operational tasks and costs, including account opening, account maintenance and 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, the costs involved are

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[4] *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), available at: Central-Bank-Digital-Currencies-Costs-Benefits-and-Major-Implications-for-the-U.S.-Economic-System.pdf (bpi.com).

[5] 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). However, to date, nearly every major central bank has declared that it intends to pursue an indirect solution using commercial banks to provide the distribution tier to consumers, similar to the role they play today. This includes the China E-Yuan pilot, which is the largest pilot to date. 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 wholesale CBDC would not encourage financial inclusion, change retail payments processes, or the payment of government benefits. A wholesale account-based CBDC that was available only to depository institutions, which can already establish accounts at the Federal Reserve, would be little different from the current system. A direct, account-based CBDC would require the Fed to manage millions or potentially billions of accounts, including satisfying AML-KYC requirements.

[6] *See* Greg Baer and Bill Nelson, "A Costly Misunderstanding About CBDC" (December 17, 2021), available at: https://bpi.com/a-costly-misunderstanding-about-cbdc/.

likely to result in consumers being charged a fee for holding and transferring CBDC.[7] Thus, given that a CBDC by all accounts would not pay interest, consumers would have a cost of carrying CBDC.

Congressional action would be required before the Federal Reserve could launch such a CBDC, as the Federal Reserve does not appear to have legal authority to issue this CBDC.[8] Ultimately, legislation should be enacted only if Congress and other policymakers determine that a U.S. CBDC would have net benefits over the current monetary and financial system, as the Federal Reserve recognizes in its paper. Congress and other policymakers must evaluate whether a CBDC 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, and (vi) financial inclusion, among others.

i) *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. 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.[9] (We assume that the Federal Reserve would not use CBDC as a funding source to becoming a direct lender, as some have advocated.)[10] It is through credit intermediation that banks engage in maturity transformation by taking deposits and making loans. That system provides depositors a secure place to put their money with the right to withdraw it immediately, while allowing borrowers access to stable, low-cost, long-term funding.

Thus, if in a stress event, bank depositors chose to move deposits to the central bank in the form of CBDC, banks would face a massive shock to their funding. At best, this would result in a

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[7] 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 intermediator. 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.

[8] Paige Pidano Paridon, BPI, "Legal Authority to Issue a U.S. Central Bank Digital Currency" (June 9, 2021), available at: Microsoft Word - Legal Authority to Issue a U.S. Central Bank Digital Currency - vF.docx (bpi.com).

[9] *See* Greg Baer and Bill Nelson, BPI, "A Costly Misunderstanding About CBDC" (December 17, 2021*)*, available at: A Costly Misunderstanding About CBDC - Bank Policy Institute (bpi.com).

[10] Saule T. Omarova, "The People's Ledger: How to Democratize Money and Finance the Economy," 74 Vand. L. Rev. 1301 (2021), available at: The-Peoples-Ledger-2.pdf (vanderbiltlawreview.org.

corresponding reduction in loan supply funded by those deposits. Notably, this effect would occur even if depositors chose to run for only a day. And while this effect would occur under stress, we assume that regulators, anticipating such an event in liquidity stress tests, would consider deposits a less stable source of funding, and require loans increasingly to be funded by long-term debt. Such a regulatory response would result in a permanent increase in loan costs, and a permanent reduction in economic growth.

As discussed in greater detail in our response to the Federal Reserve's questions, 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.[11]

ii) *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.

iii) *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.

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[11] *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, available at: http://dx.doi.org/10.17016/FEDS.2015.010. 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.

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.[12] 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 intermediator, 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 – as it promised to do in 2018 – 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.[13] Further, other efforts are underway to improve cross-border payments outside of any potential CBDC issuance. Improving the 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 have executed a proof of concept and announced plans to launch by the end of this year an immediate cross-border (IXB) payments system; it is being designed with the contribution of 24 financial institutions.[14] 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, but it is too early to draw conclusions as to whether a wholesale CBDC could improve cross-border payments. Given the steps involved in a cross-border payment, it is unclear what steps a CBDC would replace and how it would lower the cost of each. 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.

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[12] Light, Joe, "China Shows Off Digital Yuan at Olympics as U.S. Plays Catch-Up" Bloomberg (February 15, 2022), available at: https://www.bloomberg.com/news/articles/2022-02-15/china-is-showing-off-its-central-bank-digital-yuan-currency-at-beijing-olympics?sref=9xX5rA0h.

[13] Spencer Tierney, "Wise Money Transfer Review," Nerd Wallet (Nov. 15, 2021), available at: https://www.nerdwallet.com/article/banking/transferwise-review.

[14] *See* John Adams, "Banks gearing up to test real-time payments across borders," *American Banker*, (May 2, 2022), available at: https://www.americanbanker.com/payments/news/banks-gearing-up-to-test-real-time-payments-across-borders; *See also* "EBA Clearing, SWIFT, and The Clearing House to deliver pilot service for immediate cross-border payments" (April 28, 2022), available at: EBA CLEARING, SWIFT and The Clearing House to deliver pilot service for immediate cross-border payments (prnewswire.com).

iv) *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 explained well why one should not be concerned about another country's currency gaining an advantage over the dollar by taking on digital form, noting that the reason the dollar is the reserve currency is "because of our rule of law; our democratic institutions, which are the best in the world; our economy; our industrious people; all the things that make the United States the United States."[15] 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.

v) *Competition with stablecoins*

Others 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.[16] 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.[17]

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[15] Powell, Jerome, transcript of Federal Open Market Committee press conference, April 28, 2021, available at: https://www.federalreserve.gov/mediacenter/files/FOMCpresconf20210428.pdf.

[16] Baer, Greg, "Making Stablecoins Stable: Is the Cure Worse than the Disease?", Bank Policy Institute (Sept. 27, 2021), available at: https://bpi.com/making-stablecoins-stable-is-the-cure-worse-than-the-disease/.

[17] 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), available at: IN11928 (congress.gov). 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), available at: What Terra's Crash Means For Crypto and Beyond | Time.

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.[18] The calls by some policymakers for stablecoin regulation have escalated further in the wake of the recent run triggered by the failure of TerraUSD, an algorithmic stablecoin, to maintain its dollar peg.[19] 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" would be backed solely by cash, government securities, or repos backed by government securities, which 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.[20] 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, now named Diem.[21] Although Facebook 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.

As BPI has previously suggested, a stablecoin that was designed to, and would in actuality, exist in a state of equilibrium with bank deposits (which would be impossible for a CBDC) could avoid undermining the banking system while still offering convenience to customers.[22] Banks could issue stablecoins *pari passu* with bank deposits. Indeed, a recent Federal Reserve research paper concluded that under a framework in which stablecoins were backed by commercial bank deposits that were used for fractional reserve banking, bank intermediation would not be disrupted, so long as "the treatment of stablecoin deposits [were] the same as non-stablecoin deposits in terms of the required reserve ratio,

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[18] *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), available at: Report on Stablecoins (treasury.gov); White House, "Executive Order on Ensuring Responsible Development of Digital Assets" (March 9, 2022)j; and Remarks from Secretary of the Treasury Janet L. Yellen on Digital Assets, U.S. Department of the Treasury (April 7, 2022), available at: Remarks from Secretary of the Treasury Janet L. Yellen on Digital Assets | U.S. Department of the Treasury.

[19] Chris Matthews, "Terra crash sharpens Washington's attention on crypto regulations," MarketWatch, (Updated May 18, 2022), available at: Terra crash sharpens Washington's attention on crypto regulations - MarketWatch.

[20] *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) (available at: https://www.federalreserve.gov/newsevents/speech/brainard20210524a.htm) (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.").

[21] Sam Sutton and Victoria Guida, "Facebook's crypto project sold after political backlash," Politico, (Jan. 31, 2022), available at: Facebook's crypto project sold after political backlash - POLITICO.

[22] *See* Baer (2022). ("There does seem to be one way for stablecoins to avoid undermining the fractional reserve system while still offering convenience to customers, and that is for them to reach a state of equilibrium with bank deposits. (With a CBDC, equilibrium is impossible).").

liquidity coverage and other regulatory and self-imposed risk limits."[23] In order for there to be true equivalency, the stablecoin deposits would need to be insured and subject to similar treatment as other deposits in terms of insurance premiums.[24]

Furthermore, this design would seem to align with the public sector's expectations for appropriate regulation of stablecoins. The President's Working Group on Financial Markets recommended that only insured depository institutions should be permitted to issue stablecoins.[25]

Yet even with this public sector encouragement, banks have not begun to issue retail payment stablecoins at a large scale because, as we understand from BPI members' payments experts, there has not been significant customer demand for a retail payment stablecoin. Banks' customers appear satisfied using RTP/real-time payment or ACH transfers,[26] and consumers continue to use Zelle, Venmo, debit cards, and credit cards.[27] 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 as described in the report issued by the President's Working Group on Financial Markets joined by the FDIC and OCC.

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[23] Liao, Gordon Y. and John Caramichael (2022). "Stablecoins: Growth Potential and Impact on Banking," International Finance Discussion Papers 1334, 13-14, Washington: Board of Governors of the Federal Reserve System, available at: https://doi.org/10.17016/IFDP.2022.1334.

[24] *Id*. at note 30. The authors noted that "It is conceivable that deposits associated with stablecoin issuance are categorized as either transactional or brokered deposits. The former type has a lower assumed "run rate" in assessments of liquidity coverage. To achieve full equivalence to retail deposits, stablecoins would also require FDIC insurance."

[25] *See* 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), available at: Report on Stablecoins (treasury.gov).

[26] The modern ACH Network experienced significant growth in 2021, with 29.1 billion payments valued at $72.6 trillion, and same day ACH payment volume grew nearly 74%. *See* NACHA, "ACH Network Sees 29.1 Billion Payments in 2021, Led by Major Gains in B2B and Same Day ACH.", February 3, 2022, available at: https://www.nacha.org/news/ach-network-sees-291-billion-payments-2021-led-major-gains-b2b-and-same-day-ach.

[27] The Clearing House's RTP network use has seen a seven-fold increase in volume since the first quarter of 2020 and in the fourth quarter of 2021 processed 37.8 million transactions. *See* TCH, "Real-Time Payments for All Financial Institutions.", available at: https://www.theclearinghouse.org/payment-systems/rtp. Mastercard reported a gross dollar volume increase of 25% year-over-year on branded cards and Visa reported a 17% increase in processed transactions year-over-year in 2020. *See* Mastercard Inc. (2021) Form 10-K, available at: https://s25.q4cdn.com/479285134/files/doc_financials/2021/q4/MA.12.31.2021-10-K-as-filed-Exhibits.pdf & Visa Inc. (2021) Form 10-K, available at: https://d18rn0p25nwr6d.cloudfront.net/CIK-0001403161/c2498d48-acd0-4f4d-8a36-9a10034f3060.pdf.

vi) *Financial inclusion*

One of the most frequently cited reasons in support of a CBDC is that it would increase financial inclusion. While many CBDC supporters have asserted this benefit in theory, we are unaware of any substantiated use case for CBDC that would benefit low- and moderate-income people.

The FDIC survey of the unbanked highlights the main reasons why unbanked individuals remain unbanked.[28] Most simply have no money to deposit. Many have concerns about minimum balance requirements or fees; others are concerned about privacy, although such concerns would not be addressed by a CBDC.

Meanwhile, low-cost banking accounts are proliferating. Bank On is a national program whose goal is to ensure 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. These local Bank On coalitions are joined nationally under the leadership of the Cities for Financial Empowerment (CFE) Fund. The account standards include a minimum opening deposit of $25 or less, and no or low ($5 or less) monthly maintenance fee. They do not permit penalty fees for overdrafts, non-sufficient funds, low balances or account dormancy. Accounts may allow for negative balances, but customers cannot be charged fees if this occurs.[29]

Bank On certified accounts are now offered by over 110 banks and credit unions at more than 39,000 branches nationwide.[30] Bank On accounts have proven to be highly popular with consumers: over 3.8 million accounts were open and active in 2020 at just 17 institutions that reported data, and growth increased in 2021.[31]

Furthermore, our research has shown that the take-up rate for Bank On accounts is greatest in areas with high concentrations of lower-income and minority households, as indicated by the ZIP codes associated with the accounts. Close to 60 percent of Bank On certified accounts opened in 2017 were for customers residing in areas with more than 50 percent minority population. Similarly, about 46 percent

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[28] How America Banks: Household Use of Banking and Financial Services 2019 FDIC Survey; available at: https://www.fdic.gov/analysis/household-survey/index.html.

[29] The account standards are available here: https://2wvkof1mfraz2etgea1p8kiy-wpengine.netdna-ssl.com/wp-content/uploads/2020/10/Bank-On-National-Account-Standards-2021-2022.pdf.

[30] *See* Written Testimony Submitted to the U.S. House Committee on Financial Services, House Subcommittee on Consumer Protection and Financial Institutions. Hearing on "Banking the Unbanked: Exploring Private and Public Efforts to Expand Access to the Financial System," (July 21, 2021), Submitted by David Rothstein, Senior Principal, Cities for Financial Empowerment Fund, available at: hhrg-117-ba15-wstate-rothsteind-20210721.pdf (house.gov); Accounts – BankOn (joinbankon.org); The Bank On National Data Hub: Findings from 2020, available at: bankonreport_2020findings.pdf (stlouisfed.org).

[31] The Bank On National Data Hub: Findings from 2020, available at: bankonreport_2020findings.pdf (stlouisfed.org).

of accounts opened in 2017 were in ZIP codes with more than 50 percent LMI population. Thus, Bank On appears to be achieving significant success in reaching the population it has targeted.[32]

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 would pay no 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.

vii) *Other considerations*

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.

However, a CBDC could lead to rapid and large reductions in reserve balances when there is a flight to quality, driving up money-market interest rates and potentially destabilizing financial markets. These costs and benefits would have to be carefully weighed.

Finally, policymakers should consider other issues, such as 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.

In addition, due consideration should be given to whether and how the existing prudential framework would apply to a CBDC. There are also a host of legal issues that would arise from a CBDC including clarity regarding legal claims to a CBDC, settlement finality in transactions, the use of a CBDC as collateral, and responsibility for liabilities with respect to the CBDC, including with respect to any fraud, loss, theft, or other wrongdoing, and operational matters, such as system outages. Finally, as noted, performing intermediation functions would impose costs on banks or other intermediaries, and the Federal Reserve and other policymakers must consider how the intermediaries would be compensated for providing those services.

[32] *See* Calem, Paul, *"Bank On" Transaction Accounts: Making Traditional Banking More Inclusive* (April 13, 2021), available at: https://bpi.com/wp-content/uploads/2021/04/Bank-On-Transactions-Accounts-Making-Traditional-Banking-More-Inclusive.pdf.

Conclusion

The Federal Reserve rightly recognizes that a CBDC could present serious risks to financial stability and may provide few, if any, benefits. Furthermore, to the extent a CBDC could produce one or more benefits, those benefits likely could be achieved through less harmful means. 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 and legislative branches. In the Annex, we provide responses to select questions posed by the Federal Reserve in its report, "Money and Payments: The U.S. Dollar in the Age of Digital Transformation."

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If you have any questions, please contact the undersigned by phone at 703-887-5229 or by email at paige.paridon@bpi.com.

Sincerely,

Paige P. Paridon

Paige Pidano Paridon
Senior Vice President,
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Bank Policy Institute

Annex

CBDC Benefits, Risks, and Policy Considerations

1. What additional potential benefits, policy considerations, or risks of a CBDC may exist that have not been raised in this paper?

The Federal Reserve's paper, "Money and Payments: The U.S. Dollar in the Age of Digital Transformation," provides a helpful preliminary assessment of the benefits, policy considerations, and risks of a U.S. CBDC. The Federal Reserve's discussion paper makes clear that the Federal Reserve is only evaluating an intermediated model where "the private sector would offer accounts or digital wallets to facilitate the management of CBDC holdings and payments."[33]

As an initial matter, it is important that the Federal Reserve clearly define the problems it is trying to solve with a CBDC. This articulation would enable stakeholders to provide a more useful assessment of whether a CBDC would address those problems in the first instance, and if so, whether alternative methods would address those problems with fewer downsides or risks. For example, the paper notes that a "U.S. CBDC would offer the general public broad access to digital money that is free from credit risk and liquidity risk." However, the paper does not clearly articulate whether this is a primary goal of the Federal Reserve's – or whether it is a goal at all. If a key priority for the Federal Reserve is to provide the public with access to digital money, a stablecoin issued by banks that is *pari passu* with commercial deposits would provide very similar benefits with fewer of the attendant risks that come with a CBDC, as discussed further herein. A clearer articulation of the highest-priority problems with the current system that the Federal Reserve would seek to address with a CBDC would allow us to provide a more detailed evaluation of whether those problems may be addressed by a CBDC, whether other problems created by a CBDC outweigh the current problems, and whether potential alternative solutions could achieve the same goal but with fewer downsides.

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[33] We do not address the potential benefits and risks of a wholesale CBDC in our response. We do note that there is ongoing research about the potential benefits of a wholesale CBDC by various central banks and other bodies, and thus, it would be premature to make any specific recommendations regarding a wholesale CBDC. However, the Federal Reserve should continue to monitor those projects as part of its overall research on a possible CBDC and its efforts to improve the speed and efficiency of the payments system, particularly in the cross-border context. *See, e.g.*, BIS Press Release "BIS, SNB and SIX successfully test integration of wholesale CBDC settlement with commercial banks" (January 13, 2022), available at: Press release: BIS, SNB and SIX successfully test integration of wholesale CBDC settlement with commercial banks; BIS Press Release "BIS, Bank of France and Swiss National Bank conclude successful cross-border wholesale CBDC experiment" (December 8, 2021), available at: Press release: BIS, Bank of France and Swiss National Bank conclude successful cross-border wholesale CBDC experiment.

In addition, while the paper provides a good overview of multiple potential benefits and risks of a CBDC, there are certain policy and legal issues that warrant further consideration. First, it is important that the Federal Reserve ensure that a CBDC would be completely interchangeable with traditional currency to avoid creating two classes of dollars.

Due consideration also should be given to whether and how the existing prudential framework would apply to a CBDC. There are also a host of legal questions that would arise from a CBDC including legal claims to a CBDC, settlement finality in transactions, the use of CBDC as collateral, and responsibility for liabilities with respect to the CBDC, including with respect to any fraud, loss, theft, or other wrongdoing, as well as systems outages or other operational risks.

Finally, as we noted in our cover letter, performing intermediation functions would impose costs on banks or other intermediaries, yet no one has identified who would pay the intermediaries – that is, providers of a digital wallet in which a CBDC would be held – for services attendant to holding and transferring CBDC. Those services likely would include, at a minimum, customer service, dispute resolution, AML and sanctions compliance (including both on-boarding and transaction monitoring), and fixed and variable technology expense.

2. Could some or all of the potential benefits of a CBDC be better achieved in a different way?

First, as we noted previously, we would be able to provide a more complete response to this question if the Federal Reserve provided a fuller explanation of its main priorities, as the potential benefits likely cannot be achieved simultaneously with one particular CBDC design.

However, based on current research and available information about the potential benefits often cited by proponents of a CBDC and referenced in the Federal Reserve's paper, we believe that it may be possible to achieve many of the potential benefits of a CBDC via alternate means that would not require a remaking of the financial system or the building of an infrastructure to support a CBDC. For example, and as discussed further in our cover letter, our prior writings, and our response to question 3, the potential financial inclusion benefits of a CBDC – at least in the United States – may be limited, and furthermore, could be addressed in other ways, including by private sector innovations. As another example, the paper notes that a CBDC could increase the speed and efficiency of payments, including in the cross-border context. As referenced in footnote 1 and discussed in response to question 9, below, it is too soon to draw conclusions about whether a CBDC would result in such benefits. We also discuss other ways to achieve payment system improvements in that response.

3. Could a CBDC affect financial inclusion? Would the net effect be positive or negative for inclusion?

One reason often cited in support of a CBDC is that it could improve 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.[34] Given the reasons the unbanked cite for not having a bank account in the United States, however, a CBDC appears to be unlikely to improve inclusion materially.[35] According to a 2019 FDIC study, 5.4 percent of U.S. households (approximately 7.1 million households) are unbanked, a percentage that has been steadily falling and is currently at an all-time low.[36]

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 (29%); Don't Trust Banks (16%); Personal Identification, Credit or Former Bank Account Problems (8%); Avoiding a Bank Gives More Privacy (7%); Bank Account Fees Too High (7%); Bank Account Fees Too Unpredictable (2%); Banks Do Not Offer Needed Products and Services (2%); Bank Locations are Inconvenient (2%); Bank Hours Are Inconvenient (2%).

An intermediated CBDC is unlikely to address such concerns. A CBDC likely would come with fewer services than a traditional bank account and no branches and thus would not satisfy the 6 percent of respondents who wanted more services or branches. The 16 percent of people who do not trust banks and the 7 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 spending habits. Thus, it seems, regardless of its features, this 23 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 less appeal than a traditional bank account. And, again, an intermediated CBDC would require use of a bank or tech company.

In addition, as noted, certain respondents to the FDIC survey cited bank fees that are "too high" (7%) or "too unpredictable" (2%) as their primary reasons for not having a bank account. As discussed in

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[34] *See* Raphael Auer, Holti Banka, Nana Yaa Boakye-Adjei, Ahmed Faragallah, Jon Frost, Harish Natarajan and Jermy Prenio, "Central bank digital currencies: a new tool in the financial inclusion toolkit?," FSI Insights on policy implementation No 41 (April 2022) at 6, available at: FSI Insights No 41 Central bank digital currencies: a new tool in the financial inclusion toolkit? (bis.org) (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-CFPB-JunkFeesRFI-response-2022.03.31.pdf.

[35] *See* Baer at 16-17.

[36] How America Banks: Household Use of Banking and Financial Services 2019 FDIC Survey; available at: https://www.fdic.gov/analysis/household-survey/index.html.

our response to question 1, 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 bank fees cited by some as reasons for not having a bank account. Moreover, a CBDC is not necessary to address these concerns. The private sector is responding to the demand for lower-cost, more attractive banking options by the unbanked or underbanked—for example, through the introduction of low-cost "Bank On" bank transaction accounts.[37] Bank On accounts are certified by the Cities for Financial Empowerment Fund, a non-profit organization, and this type of account comes with a minimum balance requirement of only $25 and monthly fees of $5 or less; account opening is free, as is in-market ATM usage, and there are no overdraft charges.[38] Bank On-certified accounts are now offered by over 110 banks and credit unions at more than 39,000 branches nationwide.[39] Bank On accounts have proven to be highly popular with consumers: over 3.8 million accounts were open and active in 2020, and growth increased in 2021.[40]

Beyond the reasons cited in the FDIC survey for not having a bank account, CBDCs, by virtue of being digital, raise a potential technological barrier to financial system access. In order for a CBDC to be a viable option for the unbanked and underbanked, they must have access to reliable broadband internet, which has proven to be a challenge in some communities, particularly lower-income and rural communities.[41]

4. How might a U.S. CBDC affect the Federal Reserve's ability to effectively implement monetary policy in the pursuit of its maximum-employment and price-stability goals?

BPI has previously written on this topic, and we summarize that work here.[42] 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. As a consequence, the Federal Reserve could

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[37] For more information about Bank On, see https://joinbankon.org/.

[38] Bank On National Account Standards 2021-2022, available at: *https://2wvkof1mfraz2etgea1p8kiy-wpengine.netdna-ssl.com/wp-content/uploads/2020/10/Bank-On-National-Account-Standards-2021-2022.pdf.*

[39] *See* Written Testimony Submitted to the U.S. House Committee on Financial Services, House Subcommittee on Consumer Protection and Financial Institutions. Hearing on "Banking the Unbanked: Exploring Private and Public Efforts to Expand Access to the Financial System," (July 21, 2021), Submitted by David Rothstein, Senior Principal, Cities for Financial Empowerment Fund, available at: hhrg-117-ba15-wstate-rothsteind-20210721.pdf (house.gov); Accounts – BankOn (joinbankon.org); The Bank On National Data Hub: Findings from 2020, available at: bankonreport_2020findings.pdf (stlouisfed.org).

[40] The Bank On National Data Hub: Findings from 2020, available at: bankonreport_2020findings.pdf (stlouisfed.org).

[41] *See* Joyce Winslow, Pew Trust Magazine, "America's Digital Divide," available at: America's Digital Divide | The Pew Charitable Trusts (pewtrusts.org) (noting that the Federal Communications Commission estimates that more than 21 million people in the United States don't have internet access, including nearly 3 in 10 people—27 percent—who live in rural communities, and 2 percent of those living in cities; Microsoft estimates that the number of Americans without broadband access could be over 163 million; and that The Pew Research Center found that 44 percent of adults in households with incomes below $30,000 don't have broadband service).

[42] The Benefits and Costs of a Central Bank Digital Currency for Monetary Policy - Bank Policy Institute (bpi.com)

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.

5. How could a CBDC affect financial stability? Would the net effect be positive or negative for stability?

The Federal Reserve's discussion paper makes clear that the Federal Reserve is only evaluating an intermediated model where "the private sector would offer accounts or digital wallets to facilitate the management of CBDC holdings and payments."

The Federal Reserve discussion paper notes the key financial stability risk presented by such a CBDC:

> Because central bank money is the safest form of money, a widely accessible CBDC would be particularly attractive to risk-averse users, especially during times of stress in the financial system. The ability to quickly convert other forms of money—including deposits at commercial banks—into CBDC could make runs on financial firms more likely or more severe. Traditional measures such as prudential supervision, government deposit insurance, and access to central bank liquidity may be insufficient to stave off large outflows of commercial bank deposits into CBDC in the event of financial panic.[43]

Significant outflows of deposits at commercial banks would lead to an immediate disruption in the flow of credit to the real economy during regular times and would exacerbate the impact of any stress event. Those flights to quality would reduce the maturity transformation that results from deposit inflows occurring at the same time as draws on lines of credit, thereby increasing the cost of credit. Not only will the gains from that coproduction be lost, but banks would also have to hold reserve balances and Treasury securities as an even higher fraction of their balance sheets rather than loans to Main Street because liquidity requirements likely would be adjusted to reflect the changed properties of deposits as a source of funding.

The primary suggestions often made to address this significant concern are either to implement a non-interest-bearing CBDC or limit the amount of CBDC an end user could hold. These design features, however, likely would be necessary but not sufficient to address the financial stability concerns raised by a CBDC. In times of crisis, even if a CBDC paid no interest, it could still prove attractive due to its government backing and drain deposits from the financial system, which could be destabilizing. If the CBDC were interest-bearing, and especially if the interest rate were subsidized, the CBDC could have a similar effect by disintermediating banks, especially community banks, in normal times.

As noted in response to question 4, a CBDC also would require the Federal Reserve to increase further the size of its balance sheet because the Federal Reserve would have to hold assets equal to increases in CBDC not offset by declines in currency, and equal to the extra reserve balances needed as a buffer to offset potential increases in CBDC in times of stress.

Imposing a cap on the amounts held in CBDC wallets, as seems necessary to preserve financial stability, also raises several problems. Any cap would need to be relatively low for it to achieve the objective of limiting disintermediation of depository institutions, particularly in a crisis. As BPI has previously noted, even with a cap, a CBDC would have a significant impact on maturity transformation.[44]

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[43] *Money and Payments* at 17.

[44] *Baer* at 9 (noting that "The ECB has suggested a €3,000 per citizen cap, but with 340 million citizens, that would equate to a €1 trillion deposit withdrawal from EU banks, less any physical euros that converted to digital form.)

Consequently, the ability of the CBDC to be a replacement for depository accounts and a vehicle for payments would be significantly curtailed. Furthermore, CBDC wallets would have to be linked to a private account such as a bank deposit account to receive payments that exceed the cap. Such an arrangement could raise privacy concerns if a transaction were initiated but disallowed because the recipient's account had reached its CBDC limit; the initiating entity would then know the status of the other party's CBDC balance.

6. Could a CBDC adversely affect the financial sector? How might a CBDC affect the financial sector differently from stablecoins or other nonbank money?

With respect to a CBDC's likely impact on the financial sector and financial stability, see our response to question 5.

As described in BPI's prior writing and below, the differences between the effects of a CBDC and a stablecoin on the financial sector would depend on the design of the stablecoin.[45] If a stablecoin were completely backed by safe and liquid assets, such as central bank reserves and short-term Treasuries, the stablecoin would have effects that are similar to those of a CBDC. If the stablecoin were backed by more risky, less liquid, and/or incomplete reserves, the stablecoin, like a prime money market mutual fund, would be subject to runs that could destabilize the financial system. Algorithmic stableoins rely "on financial engineering to maintain [their] link to the dollar" and are also subject to runs.[46] If the stablecoin were made equivalent to a bank deposit, it would present neither flight to quality nor run risk.

Stablecoins backed only by central bank reserves and short-term Treasuries would be similar in design to a CBDC and would thus raise similar concerns with respect to the financial sector and financial stability, namely that the safety of the synthetic CBDC would appeal to depositors, particularly during times of crisis, and result in a flight to safety, draining the financial system of deposits that would lead to several knock-on effects, including increasing the cost of credit. Indeed, the Federal Reserve raised such concerns in response to a proposal by an entity called The Narrow Bank that proposed to establish a bank with a very narrow business model. Essentially, TNB sought a Federal Reserve master account for its state-chartered institution that would take deposits from institutional investors and invest most of the proceeds in balances at Reserve Banks. These balances would pass through the interest earned on excess reserves to TNB's depositors. TNB has not yet received a master account. The Federal Reserve highlighted its concerns with this type of "Pass-Through Investment Entity" (PTIE), noting that "by maintaining all or substantially all of their assets in the form of balances at Reserve Banks and having the ability to attract very large quantities of deposits at a near-IOER rate, [PTIEs] have the potential to complicate the implementation of monetary policy . . . [and] could disrupt financial intermediation in

[45] Making Stablecoins Stable: Is the Cure Worse than the Disease? - Bank Policy Institute (bpi.com)

[46] Alexander Osipovich and Caitlin Ostroff, "Crash of TerraUSD Shakes Crypto. 'There Was a Run on the Bank,'" (May 12, 2022), available at: Crash of TerraUSD Shakes Crypto. 'There Was a Run on the Bank.' - WSJ.

ways that are hard to anticipate, and could also have a negative effect on financial stability."[47] The Federal Reserve explained that PTIEs could negatively affect financial stability by attracting deposits during times of stress, which would divert funding away from nonfinancial firms, financial institutions, and state and local governments. In addition, the Federal Reserve explained that a "proliferation of similar PTIEs could magnify these effects across the financial system."[48]

Other stablecoin arrangements raise different concerns, which BPI has highlighted previously, and that the President's Working Group outlined in its November 2021 Stablecoin Report.[49] Stablecoins that are issued with backing from assets that include commercial paper, and, in some cases, receivables, including loans to crypto affiliates, present several risks to consumers and the financial system. First, some stablecoin issuers have failed, with consumers losing all their money – whether because the underlying declined in value, or in some cases when the money was simply stolen through hacking or defalcation.[50] Second, these stablecoins have been marketed as being backed by "reserves," which, in banking parlance, connotes very safe and liquid assets.[51] However, in reality, these stablecoins are

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[47] Federal Reserve System, Advance notice of proposed rulemaking., "Regulation D: Reserve Requirements of Depository Institutions," 84 Fed. Reg. 8829 (March. 12, 2019) at 8830-31, available at: 2019-04348.pdf (govinfo.gov).

[48] *Id*. at 8830.

[49] 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), available at: Report on Stablecoins (treasury.gov). The PWG report highlighted that "[t]he mere prospect of a stablecoin not performing as expected could result in a "run" on that stablecoin – i.e., a self-reinforcing cycle of redemptions and fire sales of reserve assets. Fire sales of reserve assets could disrupt critical funding markets, depending on the type and volume of reserve assets involved. Runs could spread contagiously from one stablecoin to another, or to other types of financial institutions that are believed to have a similar risk profile. Risks to the broader financial system could rapidly increase as well, especially in the absence of prudential standards.").

[50] *See*, *e.g.*, Richi Jennings, "SafeDollar Stablecoin not Safe nor Stable: Hack Sends Value to ZERO," Security Boulevard (June 29, 2021), available at: SafeDollar Stablecoin not Safe nor Stable: Hack Sends Value to ZERO - Security Boulevard; Ryan Browne, "The world's biggest stablecoin has dropped below its $1 peg," CNBC (May 12, 2022), available at: Tether (USDT) stablecoin drops below $1 peg (cnbc.com); "The Biggest Threat to Trust in Cryptocurrency: Rug Pulls Put 2021 Cryptocurrency Scam Revenue Close to All-time Highs," (Dec. 16, 2021) (Chainanalysis report found that over $7.7 billion was stolen in cryptocurrency scams worldwide in 2021), available at: Crypto Scams: 2021 Rug Pulls Put Revenues Near All-Time High (chainalysis.com).

[51] *See*, *e.g.,* Hubbard, R. Glenn, Money, the Financial System, and the Economy, Addison-Wesley Publishing Company, Inc. June 1994, p. 306 ("Reserves consist of vault cash and banks' deposits with the Federal Reserve System" and "Because of their liquidity, bank holdings of U.S. government securities are sometimes called secondary reserves."), Mishkin, Fredric S., The Economics of Money, Banking, and Financial Markets, Eleventh Edition, Pearson Education, 2016, p. 698 ("Reserves. Banks' holding of deposits in accounts with the Fed plus currency that is physically held by banks (vault cash)"), and European Central Bank, Minimum Reserves, available at: https://www.ecb.europa.eu/mopo/implement/mr/html/index.en.html ("The ECB requires credit institutions established in the euro area to hold deposits on accounts with their national central bank. These are called "minimum" or "required" reserves (MRR)."). In addition, reserves can include pass-through deposits at another institution that keeps the funds on deposit at the Federal Reserve.

backed by commercial paper – essentially loans.[52] Thus, consumers have been deceived about the safety of these products.[53] If the backing of these stablecoins were called into question, a run could be triggered whereby consumers seek to redeem their stablecoins all at once.[54] Third, because stablecoins are currently regulated only at the state level as money service businesses, there is generally no requirement that they even disclose what is backing the stablecoins.[55] Fourth, financial stability risk could arise if the failure of a major stablecoin issuer prompted a run on other stablecoins, with those stablecoins forced to liquidate the assets backing those coins. As the President's Working Group, the President, the Secretary of the Treasury, and many other government officials have outlined, the risks of these instruments must be addressed by appropriate regulation, and we expect that regulation to address the significant run risk posed by these stablecoins will be forthcoming.[56] Indeed, algorithmic stablecoins also present run risk, which was illustrated earlier this month when an algorithmic stablecoin lost its dollar peg, triggering a run on crypto, and erasing over $400 billion in crypto market

[52] *See* Bill Nelson, Paige Pidano Paridon, American Banker, BankThink: "Stablecoins are backed by 'reserves'? Give us a break" (Dec. 10, 2021), available at: Stablecoins are backed by 'reserves'? Give us a break. | American Banker.

[53] *See* CFTC Orders Tether and Bitfinex to Pay Fines Totaling $42.5 Million | CFTC ("The Tether order finds that since its launch in 2014, Tether has represented that the tether token is a stablecoin . . . [but] that from at least June 1, 2016 to February 25, 2019, Tether misrepresented to customers and the market that Tether maintained sufficient U.S. dollar reserves to back every USDT in circulation with the "equivalent amount of corresponding fiat currency" held by Tether and "safely deposited" in Tether's bank accounts. In fact Tether reserves were not "fully-backed" the majority of the time.").

[54] 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), available at: Report on Stablecoins (treasury.gov). The PWG report highlighted that "[t]he mere prospect of a stablecoin not performing as expected could result in a "run" on that stablecoin – i.e., a self-reinforcing cycle of redemptions and fire sales of reserve assets. Fire sales of reserve assets could disrupt critical funding markets, depending on the type and volume of reserve assets involved. Runs could spread contagiously from one stablecoin to another, or to other types of financial institutions that are believed to have a similar risk profile. Risks to the broader financial system could rapidly increase as well, especially in the absence of prudential standards."

[55] *See* Awrey, Dan, Bad Money (February 5, 2020). 106:1 Cornell Law Review 1 (2020); Cornell Legal Studies Research Paper No. 20-38, Available at:
SSRN: https://ssrn.com/abstract=3532681 or http://dx.doi.org/10.2139/ssrn.3532681.

[56] *See*, e.g., PWG Report on Stablecoins, Executive Order on Ensuring Responsible Development of Digital Assets (March 9, 2022), available at: Executive Order on Ensuring Responsible Development of Digital Assets | The White House, and Remarks from Secretary of the Treasury Janet L. Yellen on Digital Assets at American University's Kogod School of Business Center for Innovation (April 7, 2022), available at: Remarks from Secretary of the Treasury Janet L. Yellen on Digital Assets | U.S. Department of the Treasury.

capitalization.[57] That event has prompted renewed calls for stablecoin regulation among policymakers.[58]

One way that a stablecoin could be offered without undermining the banking system would be for stablecoins to be designed to be equivalent to bank deposits. This design would be impossible for a CBDC given that it is a direct obligation of the government and no deposit at a financial institution could achieve that same status. However, banks could issue stablecoins that are *pari passu* with bank deposits. These stablecoins could also be available to fund bank lending. Thus, consumers and businesses would retain any convenience that comes with using a stablecoin, and consumer and commercial lending would continue apace. At the same time, there are significant developments underway to move to real-time, 24/7 payments – which generally would provide the same types of convenience and other benefits as retail payments stablecoins – and the use of P2P services, such as PayPal, Zelle, and Venmo, continues to grow.

7. What tools could be considered to mitigate any adverse impact of CBDC on the financial sector? Would some of these tools diminish the potential benefits of a CBDC?

As discussed in response to question 5, the most widely cited suggestions to address the likely adverse impact of a CBDC on the financial system are either to implement a non-interest-bearing CBDC or limit the amount of CBDC an end user could hold. As noted, however, these design features likely would be necessary but not sufficient to address the financial stability concerns raised by a CBDC. In times of crisis, even if a CBDC paid no interest, it could still prove attractive due to its government backing and drain deposits from the financial system, which could be destabilizing. If the CBDC were interest-bearing, and especially if the interest rate were subsidized, the CBDC could have a similar effect by disintermediating banks, especially community banks, in normal times. Moreover, these mitigants would inherently reduce the benefits of the CBDC.

8. If cash usage declines, is it important to preserve the general public's access to a form of central bank money that can be used widely for payments?

Cash use has declined because consumers prefer to use less cash, but the amount of cash outstanding continues to grow. There is $2.3 trillion in currency in circulation as of May 11, 2022, compared with $1.1 trillion 10 years earlier. Consequently, there appears to be no reason at all to think the Fed is on course to reduce currency availability. Furthermore, the Federal Reserve states in the

[57] Alexander Osipovich and Caitlin Ostroff, "Crash of TerraUSD Shakes Crypto. 'There Was a Run on the Bank,'" (May 12, 2022), available at: Crash of TerraUSD Shakes Crypto. 'There Was a Run on the Bank.' - WSJ; Chow, Andrew R. "The Real Reasons Behind the Crypto Crash, and What We Can Learn from Terra's Fall," Time, (May 17, 2022), available at: What Terra's Crash Means For Crypto and Beyond | Time.

[58] Chris Matthews, "Terra crash sharpens Washington's attention on crypto regulations," MarketWatch, (Updated May 18, 2022), available at: Terra crash sharpens Washington's attention on crypto regulations - MarketWatch.

paper that it is "committed to ensuring the continued safety and availability of cash and is considering a CBDC as a means to expand safe payment options, not to reduce or replace them."[59]

If consumers choose to use less cash relative to other means of transacting, that would appear to be an endorsement of the other available means rather than an indication they need a replacement or supplement. Indeed, there are still segments of the population that use and likely will want to continue to use physical cash for a variety of reasons. For all of these reasons, we support keeping cash as legal tender so that for those who prefer to transact in cash, they have access to a form of central bank money that can be used widely for payments.

9. How might domestic and cross-border digital payments evolve in the absence of a U.S. CBDC?

Proponents of a CBDC often mention, as does the Federal Reserve's paper, that one potential benefit of a CBDC is that it could increase the speed and lower the cost of payments, including cross-border payments. However, whether this could be achieved in practice is a complex question that many central banks and international bodies are just beginning to study. Furthermore, there are other methods underway of improving payments – both domestically and internationally – that could achieve that goal without CBDC.

In the United States, there are other innovations underway that are improving and will continue to improve the domestic payments system. For example, The Clearing House runs its real-time payments system, the RTP network, which enables instantaneous settlement and availability.[60] The value limit for transactions on the RTP network will soon be increasing to $1 million.[61] Other private sector innovation has exploded in the payments space, including the bank-led development of Early Warning Services' Zelle service for domestic P2P payments and other P2P services offered by fintechs, such as Venmo.[62] The automated clearing house system (ACH) also has made same-day payments available and recently increased the value limit for same-day payments to $1 million.[63] In addition, the Federal Reserve itself is developing a real-time payments system, FedNow, that is scheduled to begin operating in 2023.[64]

Similarly, it is unclear whether a CBDC would materially improve cross-border payments. Indeed, in July of last year, the BIS and other entities highlighted the significant work that remains to

[59] *Money and Payments* at 16.

[60] The Clearing House, "First New Core Payments System in the U.S. in more than 40 Years Initiates First Live Payments" (Nov. 14, 2017) (available at: https://www.theclearinghouse.org/payment-systems/articles/2017/11/20171114-rtp-first-new-core-payments-system).

[61] The Clearing House, "TCH to Raise RTP® Network Transaction Limit to $1 Million" (Apr. 6, 2022) (available at: https://www.theclearinghouse.org/payment-systems/articles/2022/04/tch_raise_rtp_network_transaction_limit_1million_04-06-2022).

[62] Fraud on P2P Payment Apps Like Zelle and Venmo: A Primer - Bank Policy Institute (bpi.com).

[63] *See* Nacha, "Same Day ACH $1 million increase" (2022) (available at: https://www.nacha.org/resource-landing/same-day-ach-resource-center) (noting the history of same-day-funds-availability initiatives using ACH).

[64] *See* The Federal Reserve FRBServices.org, "About the FedNow[SM] Service" (2022) (available at: https://www.frbservices.org/financial-services/fednow/about.html).

determine whether it is feasible that a cross-border CBDC could improve cross-border payments. In its report to the G20, the BIS noted that:

> To date, no major jurisdiction has launched a CBDC and many design and policy decisions are still unresolved. Also, most CBDC investigations by central banks focus on domestic issues and use cases. Given this early state of play, the considerations in this report are exploratory and examine cross-border implications of CBDCs in a situation in which CBDCs are widely used. In practice, domestic issuance of CBDC will be subject to considerable further economic and practical examination before exploration of cross-border use will gather pace. Furthermore, enhancements in other areas of the cross-border payments programme, such as aligning regulatory, supervisory and oversight frameworks for cross-border payments, Anti-Money Laundering/Combating the Financing of Terrorism (AML/CFT) consistency, Payment versus Payment (PvP) adoption and payment system access will be critical for cross-border CBDC use.[65]

Further, there are several reasons why a CBDC may be unlikely to increase the speed of cross-border transactions, including remittances. First, the AML/CFT compliance issues that contribute to current friction in the cross-border payment system would have to be addressed – but those issues are not related to the underlying technology and could be addressed now under the current system. A CBDC (or the technology underpinning a CBDC) in and of itself would not address the frictions caused by AML/CFT compliance obligations. Central banks could agree to exempt transfers of CBDC from all the regulatory and compliance requirements that currently complicate them – like going through the same AML/CFT and sanctions processes that banks do currently, including a full Know Your Customer process – but they could take the same action under the current payments regime and for important reasons have decided not to do so. Thus, participating institutions will need to conduct the appropriate AML and sanctions due diligence to facilitate the transactions, adding additional friction to this multi-leg process. This includes compliance with the "Travel Rule," which requires financial institutions, including nonbank financial institutions, engaged in transmittal of funds (fiat or crypto), to transmit transactions and customer details to the next financial institution in the chain of payment in order to aid law enforcement agencies by maintaining an information trail of transaction originators and beneficiaries – something that a handful of crypto firms have only recently unveiled a compliance solution for.[66]

In addition, to use CBDCs on a cross-border basis, the sender likely would need to convert local fiat currency into CBDC, which likely would have a fee associated with that conversion. Assuming the recipient desires their own fiat currency, the recipient would then need to exchange the CBDC for the sender's currency and then convert that currency to the recipient's local currency. These transactions similarly would incur fees and likely involve F/X spreads. It is possible the recipient could exchange the sender's home country CBDC for the recipient's home country CBDC, although it is clear that any possibility of that capability is years away, and, furthermore, that transaction likely would incur costs

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[65] BIS, CPMI, IMF, Innovation Hub, IMF, World Bank Group, "Central bank digital currencies for cross-border payments, Report to the G20," (July 2021) internal citations omitted, available at: Central bank digital currencies for cross-border payments (bis.org).

[66] *See* Keely, Aislinn, "Coalition of U.S. crypto firms unveils travel rule compliance platform, TRUST," February 16, 2022, available at https://www.theblockcrypto.com/post/134408/coalition-of-us-crypto-firms-unveils-travel-rule-compliance-platform-trust.

that would have to be borne by at least some parties in the chain, including, at a minimum, costs related to F/X spreads once again.[67]

There also are other efforts underway to improve cross-border payments, as the Federal Reserve notes in the paper. For example, the FSB has highlighted as a key priority the improvement of cross-border payments and established a roadmap achieve this goal.[68] The FSB issued its first progress report in October of 2021.[69] In that report, the FSB noted that its work in 2020-2021 primarily focused on "identifying specific quantitative targets at the global level that address the challenges of cost, speed, transparency and access faced by cross-border payments" and that "[t]he next stage of work in 2022 comprises not only further analysis but the development of specific proposals for material improvements of underlying systems and arrangements (e.g. for increased adoption of payment-versus-payment), as well as the development of new systems."[70] In March of this year, the FSB updated its work programme for 2022, targeting June 2022 to release a report on "Options to improve the adoption of the Legal Entity Identifier (LEI) to enhance cross-border payments," and October 2022 to issue its "Annual report on implementation of the cross-border payments" and "Key performance indicators to monitor progress towards the quantitative targets for the cross-border payments roadmap."[71] The Federal Reserve also could help to improve international bank-to-bank wire transfers by increasing Fedwire's operating hours.[72]

In addition, EBA CLEARING, SWIFT and The Clearing House have announced that they plan to launch a pilot service for immediate cross-border (IXB) payments by the end of this year.[73]

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[67] For a discussion about the on-and-off ramp costs with respect to stablecoins (which present similar costs), *see* "Should Western Union Worry About Stablecoins?" JP Koning, CoinDesk Insights, Jan 3, 2022, available at Should Western Union Worry About Stablecoins? (coindesk.com). *See* generally, "Central bank digital currencies for cross-border payments," BIS Report to the G20, July 2021, available at https://www.bis.org/publ/othp38.pdf, which concluded that significant work remains to be done to determine whether CBDCs could reduce the current frictions in cross-border retail (or wholesale) payments, including with respect to regulatory, supervisory and oversight frameworks for cross-border payments, AMF/CFT consistency, PvP adoption and access to payment systems will be critical for CBDCs to reach their cross-border potential.

[68] The G20 countries agreed in 2020 to a multiyear roadmap to identify and deploy improvements to cross-border payments. *See* Financial Stability Board, Enhancing Cross-border Payments: Stage 3 Roadmap (October 13, 2020), available at: Enhancing Cross-border Payments: Stage 3 roadmap (fsb.org).

[69] FSB delivers a roadmap to enhance cross-border payments - Financial Stability Board;

[70] FSB: G20 Roadmap for Enhancing Cross-border Payments: First consolidated progress report, available at: G20 Roadmap for Enhancing Cross-border Payments: First consolidated progress report (fsb.org).

[71] FSB Work Programme for 2022 (March 31, 2022), available at: FSB 2022 Workplan March 2022.pdf.

[72] "Remarks by Under Secretary for Domestic Finance Nellie Liang to the National Association for Business Economics" (available at: https://home.treasury.gov/news/press-releases/jy0673) (Mar. 22, 2022) (noting that FedNow aims to be a 24/7 payment system that will be widely available).

[73] *See* John Adams, "Banks gearing up to test real-time payments across borders," *American Banker*, (May 2, 2022), available at: https://www.americanbanker.com/payments/news/banks-gearing-up-to-test-real-time-payments-

At a minimum, further research is required before drawing any conclusions about the potential benefits of a CBDC in enhancing cross-border payments' efficiency or lowering costs. In addition, by the time CBDCs would be in circulation, other cross-border solutions may be in place.

10. How should decisions by other large economy nations to issue CBDCs influence the decision whether the United States should do so?

The Federal Reserve should observe the experiences of other jurisdictions in launching a CBDC to learn from those experiences in determining whether to issue a CBDC. The dollar is too important for the U.S. and global economies for the Fed to be the first mover into the uncharted territory of CBDC issuance. As noted, there is ongoing research about the potential benefits of a wholesale CBDC by various central banks and other bodies. The Federal Reserve should continue to monitor those projects as part of its overall research on a possible CBDC and its efforts to improve the speed and efficiency of the payments system, particularly in the cross-border context.

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 multiple 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, as Chairman Powell has explained, the reason the dollar is the reserve currency is "because of our rule of law; our democratic institutions, which are the best in the world; our economy; our industrious people; all the things that make the United States the United States."[74]

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.

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across-borders; *See also* "EBA Clearing, SWIFT, and The Clearing House to deliver pilot service for immediate cross-border payments" (April 28, 2022), available at: EBA CLEARING, SWIFT and The Clearing House to deliver pilot service for immediate cross-border payments (prnewswire.com).

[74] Powell, Jerome, transcript of Federal Open Market Committee press conference, April 28, 2021, available at: https://www.federalreserve.gov/mediacenter/files/FOMCpresconf20210428.pdf.

11. Are there additional ways to manage potential risks associated with CBDC that were not raised in this paper?

The Federal Reserve should continue to study possible ways to manage the potential risks that a CBDC could pose in connection with its ongoing consideration of whether to launch a CBDC.

12. How could a CBDC provide privacy to consumers without providing complete anonymity and facilitating illicit financial activity?

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.[75]

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[75] Privacy in CBDC technology - Bank of Canada. 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

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."[76]

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", 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."[77]

13. How could a CBDC be designed to foster operational and cyber resiliency? What operational or cyber risks might be unavoidable?

N/A

14. Should a CBDC be legal tender?

Yes. Section 31 U.S.C. 5103 of the Coinage Act of 1965, entitled "Legal tender," states: "United States coins and currency (including Federal reserve notes and circulating notes of Federal reserve banks and national banks) are legal tender for all debts, public charges, taxes, and dues." According to the Treasury Department, this section of the Coinage Act means that all forms of money identified in the statute are "a valid and legal offer of payment for debts when tendered to a creditor." [78] However,

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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."

[76] ECB, "In Focus: Exploring Anonymity in Central Bank Digital Currencies" (Dec. 2019) at 3 (internal citation omitted), available at: In focus- Exploring anonimity in central bank digital currencies (europa.eu)

[77] 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, available at: CBDC - System design and interoperability (bis.org).

[78] Legal Tender Status (treasury.gov).

according to the Treasury Department, "there is no federal statute which mandates that private businesses must accept cash as a form of payment. Private businesses are free to develop their own policies on whether or not to accept cash unless there is a State law which says otherwise."[79]

Furthermore, as discussed in response to question 1, a CBDC would have to be fungible with traditional currency, which has legal tender status. As noted, legislation would be required for the Federal Reserve to issue a CBDC, and, similarly, would also appear to be required to designate any potential CBDC as "legal tender."

However, there likely would be significant costs to build the infrastructure necessary for CBDC to be widely used. Thus, these and other costs, as well as the risks of a possible U.S. CBDC, must be balanced against any possible benefits of a CBDC, which, as we discuss in this response and extensively in BPI's prior writings on CBDC, are far from assured.

CBDC Design

15. Should a CBDC pay interest? If so, why and how? If not, why not?

In considering whether any future CBDC should pay interest, the Federal Reserve first must consider its authority to do so. The Federal Reserve Act provides that the Federal Reserve may pay earnings on "balances maintained at a Federal Reserve bank by or on behalf of a depository institution."[80] A CBDC held by a depository institution for a consumer in the direct model may not be considered a "balance maintained" by or on behalf of a bank. Thus, statutory authorization may be required before the Federal Reserve could pay interest on a CBDC.

Assuming the authority exists or is provided, however, and the Federal Reserve paid interest on a CBDC, the government could subsidize the interest rate for financial inclusion or other reasons. Such subsidization, however, would put the government, rather than the private sector, in control of determining the cost and availability of deposits, and thus of credit. In addition, so far as a CBDC is meant to be digital cash – a means of payment, not a vehicle for saving – then it would make sense for the CBDC to not pay interest, although that decision could negatively impact low-and-moderate income consumers if they could earn interest by placing their money at a private sector entity.

See also responses to questions 5 and 7.

16. Should the amount of CBDC held by a single end user be subject to quantity limits?

See responses to questions 5 and 7.

[79] U.S. Bureau of Engraving and Printing - Laws and Regulations (bep.gov).

[80] Section 19 of the Federal Reserve Act provides that the Board may prescribe regulations concerning the payment of interest on balances at a Reserve Bank. *See* 12 U.S.C. § 461(b)(12).

17. What types of firms should serve as intermediaries for CBDC? What should be the role and regulatory structure for these intermediaries?

Potential intermediaries in any CBDC framework would, at a minimum, have to perform BSA/AML/CFT compliance functions and serve as a CBDC custodian. In addition, the intermediary would have to have a Federal Reserve master account to be able to deposit reserves with the Federal Reserve. As we have discussed in connection with the Federal Reserve's proposed guidance regarding master account applications, any CBDC intermediary should be subject to the regulatory and supervisory structure to which insured depository institutions and regulated bank holding companies are subject to ensure the safety and soundness of the CBDC ecosystem and the financial system more broadly.[81]

To the extent that the Federal Reserve were given the authority to authorize entities that are either not subject to supervision by a federal banking regulator at both the institution and holding company level or uninsured to distribute and custody CBDC, and thereby have a Federal Reserve master account and access to services and the payments system, the Federal Reserve Board must have supervisory and regulatory authority over those entities and apply an equivalent regulatory and supervisory framework as applies to banks and bank holding companies under federal banking law, including those regarding capital, liquidity, operational and other risk management, operational resilience, cybersecurity, anti-money laundering/countering the financing of terrorism, consumer protection, affiliations and affiliate transactions and other prudential requirements.[82]

In addition, as noted previously, intermediaries would need to be compensated for their services at reasonable rates.

18. Should a CBDC have "offline" capabilities? If so, how might that be achieved?

N/A

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[81] *See* Letter to the Federal Reserve, from the Bank Policy Institute and Independent Community Bankers of America re: Proposed Guidelines for Evaluating Accounts and Services Requests (July 12, 2021), available at: https://bpi.com/wp-content/uploads/2021/07/BPI-ICBA-Comment-to-Fed-Accounts-Proposal-July-12-2021.pdf [TO ADD CITE TO BPI's letter re: supplemental guidance once submitted]

[82] For further discussion of the importance of entities with Federal Reserve accounts and access to services and the payments system, *See* Letter to the Federal Reserve, from the Bank Policy Institute and Independent Community Bankers of America re: Proposed Guidelines for Evaluating Accounts and Services Requests (July 12, 2021), available a:t https://bpi.com/wp-content/uploads/2021/07/BPI-ICBA-Comment-to-Fed-Accounts-Proposal-July-12-2021.pdf; Letter to the Federal Reserve, from the Bank Policy Institute, The Clearing House Association, American Bankers Association, Independent Community Bankers of America, Mid-Size Bank Coalition of America, and Consumer Bankers Association re: Supplemental Notice re: Proposed Guidelines for Evaluating Accounts and Services Requests (April 22, 2022), available at: BPI Joint Trades Comment Letter to Federal Reserve re Fed Accounts Supplemental Proposal (4-21-22)FINAL.pdf.

19. Should a CBDC be designed to maximize ease of use and acceptance at the point of sale? If so, how?

N/A

20. How could a CBDC be designed to achieve transferability across multiple payment platforms? Would new technology or technical standards be needed?

N/A

21. **How might future technological innovations affect design and policy choices related to CBDC?**

N/A

22. Are there additional design principles that should be considered? Are there tradeoffs around any of the identified design principles, especially in trying to achieve the potential benefits of a CBDC?

As discussed throughout our response, virtually every design choice comes with tradeoffs. For example, as privacy increases, BSA/AML enforcement generally becomes more difficult. If limits are imposed to mitigate certain negative effects, benefits, too, are reduced. All of these choices and tradeoffs must be carefully weighed and a CBDC considered only "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."[83]

[83] *Money and Payments* at 21.