CATO
POLICY
ANALYSIS

April 4, 2023 Number 941

Central Bank Digital Currency

Assessing the Risks and Dispelling the Myths

By Nicholas Anthony and Norbert Michel

EXECUTIVE SUMMARY

Central banks around the world are actively exploring central bank digital currencies (CBDCs). In fact, several central banks have now launched their own CBDC. Yet these efforts have struggled to gain traction among citizens. While CBDC proponents present many potential benefits, those benefits do not stand up to scrutiny. In short, these proponents fail to meaningfully distinguish CBDCs from the digital dollars that exist today. Yet CBDCs are not just a story of government waste or cronyism. While CBDCs don't offer any unique benefits to the American people, they do pose serious risks to financial privacy and economic freedom. From expanding financial surveillance to destabilizing the financial system, CBDCs could impose enormous costs on U.S. citizens. Put simply, there is no reason for the federal government to issue a CBDC when the costs are so high and the benefits are so low. Congress should ensure that the federal government does not issue a CBDC.


NICHOLAS ANTHONY is a policy analyst at the Cato Institute's Center for Monetary and Financial Alternatives.
NORBERT MICHEL is vice president and director of the Center for Monetary and Financial Alternatives.

INTRODUCTION

Central bank digital currencies (CBDCs) threaten Americans' core freedoms—a cost that far outweighs the purported benefits that proponents promise. Still, government officials, central bankers, and private consultants have flocked to CBDCs in recent years.[1] In the United States and abroad, efforts to launch CBDCs are underway in a bid to solidify government control over payments systems. As entrenched as this effort may already be, a U.S. CBDC would ultimately usurp the private sector and endanger Americans' core freedoms.[2] Therefore, it should have no place in the American economy. Congress should explicitly prohibit the Federal Reserve and the Department of the Treasury from issuing a CBDC in any form.[3]

WHAT IS A CBDC?

A CBDC is a digital national currency. In the case of the United States, a CBDC would be a digital form of the U.S. dollar. Like paper dollars, a CBDC would be a liability of the Federal Reserve. But unlike paper dollars, a CBDC would offer neither the privacy protections nor the finality that cash provides. In fact, it's precisely this digital liability—a sort of digital tether between citizens and the central bank—that makes CBDCs different from the digital dollars millions of Americans already use.

In the private sector today, Americans regularly use multiple forms of digital dollars. They send digital payments using credit cards, debit cards, prepaid cards, and several mobile applications (e.g., Zelle, PayPal, and Cash App). In fact, it's not just payments that have gone digital. Nearly every financial institution offers services—from savings accounts to mortgages—via mobile applications. So there should be no misunderstanding: the U.S. dollar is already widely available in digital form. Moreover, the current system works so well that few people ever take the time to worry about whether the digital dollars they are using are a liability of Visa or a liability of Bank of America.

Though consumers have little reason to think about it, when they use a prepaid card, the balance on the card is a liability of the private company that issued it (e.g., Visa and Mastercard). Similarly, when consumers deposit money into their bank accounts, the deposits in those accounts are a liability of the bank (e.g., Bank of America and Capital One). In practice, that means that the bank owes the customer the funds deposited in that account. When a consumer transfers money from a bank account, the bank is responsible for transferring the money.

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In the case of a CBDC, however, the digital dollars would be a liability of the central bank itself. That is, the government—in the case of the United States, the Federal Reserve[4]—has the direct responsibility to hold, transfer, or otherwise remit those funds to the ostensible owner. This feature creates a direct link between citizens and the central bank—a radical departure from the existing American system where private financial institutions provide banking services to retail consumers.

Perhaps because this departure is so radical, some CBDC proponents promote an "intermediated CBDC," where private financial institutions would "service" the account.[5] In this arrangement, the balance on the account remains on the Fed's balance sheet (i.e., a liability of the Fed). However, a private financial institution would provide all necessary retail banking services (e.g., transferring funds and handling complaints). Most of the policy implications are the same for intermediated and nonintermediated retail CBDCs.

CBDC: WHAT IS IT GOOD FOR?

Proponents claim that a U.S. CBDC would promote financial inclusion, spur faster payments, protect the U.S. dollar's status as the world's reserve currency, and make monetary (or fiscal) policy easier to implement.[6] Yet as this paper demonstrates, all four arguments fail to stand up to scrutiny.

Financial Inclusion

Many CBDC proponents claim that CBDCs would improve financial inclusion by providing a new source of financial

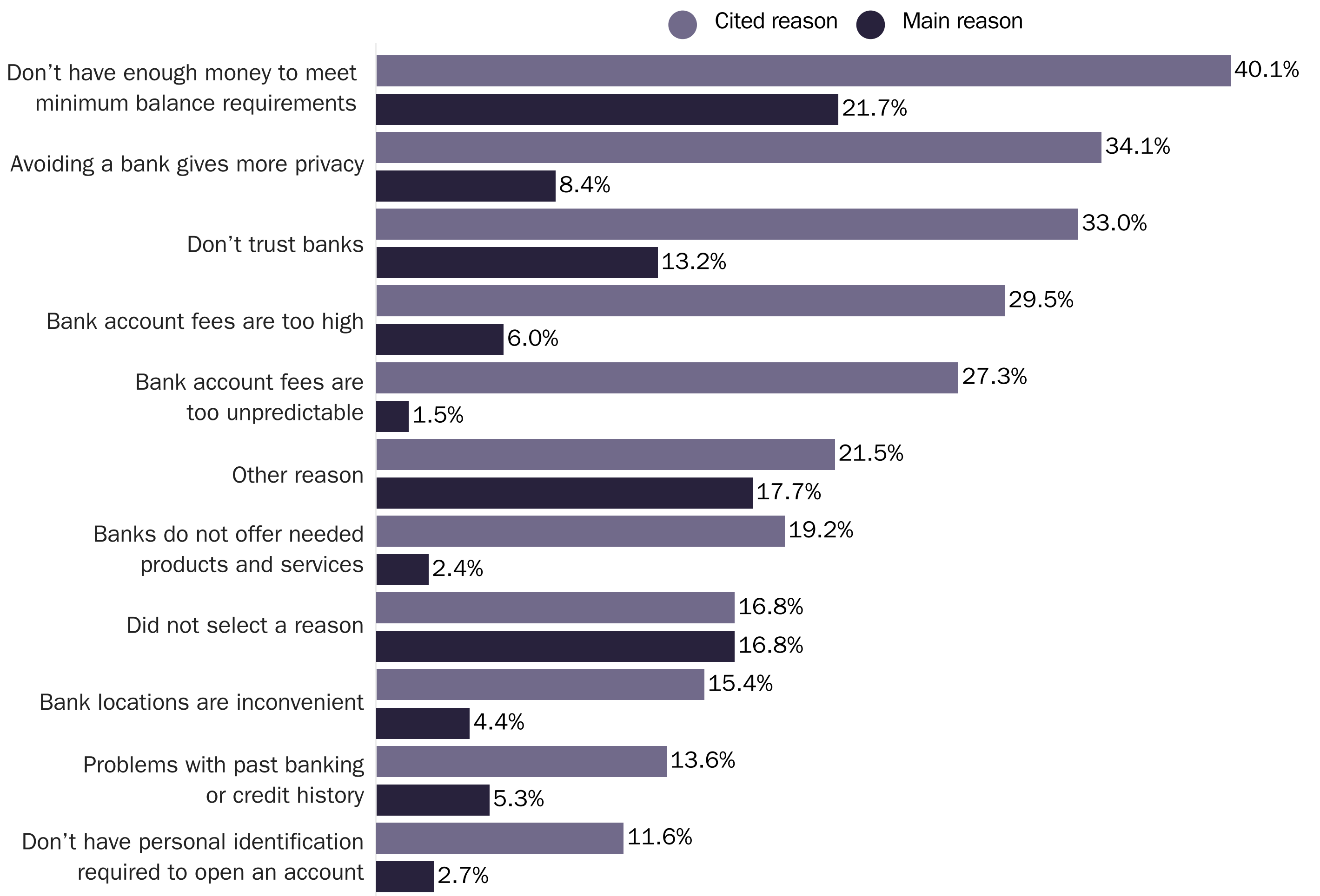
Figure 1

Interest in having a bank account, among unbanked households

Source: Federal Deposit Insurance Corporation, *FDIC National Survey of Unbanked and Underbanked Households* (Washington: FDIC, 2022).

Figure 2

Reasons for not having a bank account, among unbanked households in 2021



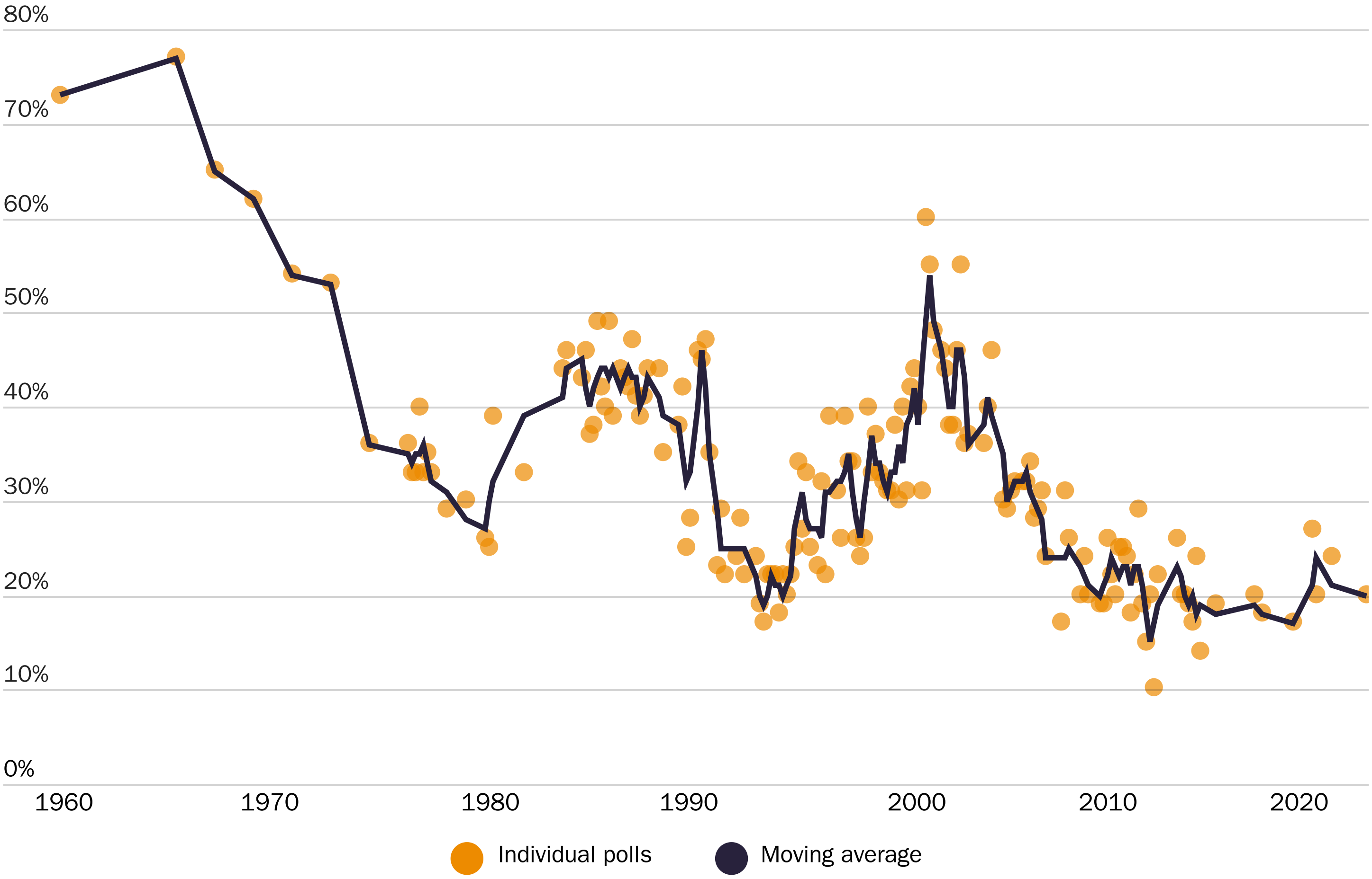
Source: Federal Deposit Insurance Corporation, *FDIC National Survey of Unbanked and Underbanked Households* (Washington: FDIC, 2022).

services for America's underbanked and unbanked populations. But much like proponents of other misguided proposals to improve financial inclusion,[7] CBDC proponents ignore the innovations already taking place in the private sector, as well as what the unbanked want.

The Federal Deposit Insurance Corporation's (FDIC's) survey of the underbanked and unbanked households in America reveals that the issue of financial inclusion is more nuanced than solely being a question of "access."[8] Over 72 percent of the unbanked households surveyed said that they were not interested in having a bank account (see Figure 1). When asked why they feel this way, respondents most commonly said that they lack enough money to open an account, avoid the banking system to secure their privacy, and distrust banks in general (see Figure 2).[9]

Given that a CBDC would establish a direct line between consumers and the federal government—the same government responsible for the know-your-customer (KYC)

Figure 3
Percent of people who say they trust the U.S. government to do what is right



Source: Pew Research, "Public Trust in Government: 1958–2022," June 6, 2022.

regulations that require citizens to provide personal information to banks—it is unlikely that a CBDC will allay citizens' privacy concerns, especially given that the public's trust of the U.S. government is at historic lows (see Figure 3).[10] In fact, unless a CBDC operates without the same anti–money laundering (AML) and KYC requirements as banks, many unbanked Americans would likely avoid a CBDC.

To the extent that consumers remain unbanked because they do not have enough money, CBDC proponents have been too quick to ignore recent cost-reducing innovations within the private sector.[11] For instance, as online and mobile banking options have proliferated—largely eliminating concerns of inconvenient hours and locations—unbanked households in the United States have steadily decreased, falling from 8.2 percent in 2011 to 4.5 percent in 2021 (see Figure 4).[12] By the time a CBDC is released (which is estimated to take upward of 5 to 10 years), that number might be even lower.[13] Regardless, the goal of financial inclusion should not be to force people to have bank accounts. Rather than restricting access to the market to protect legacy financial institutions, policymakers should establish a legal framework that fosters more competition, diversification of risks, and consumer choice in the financial sector.

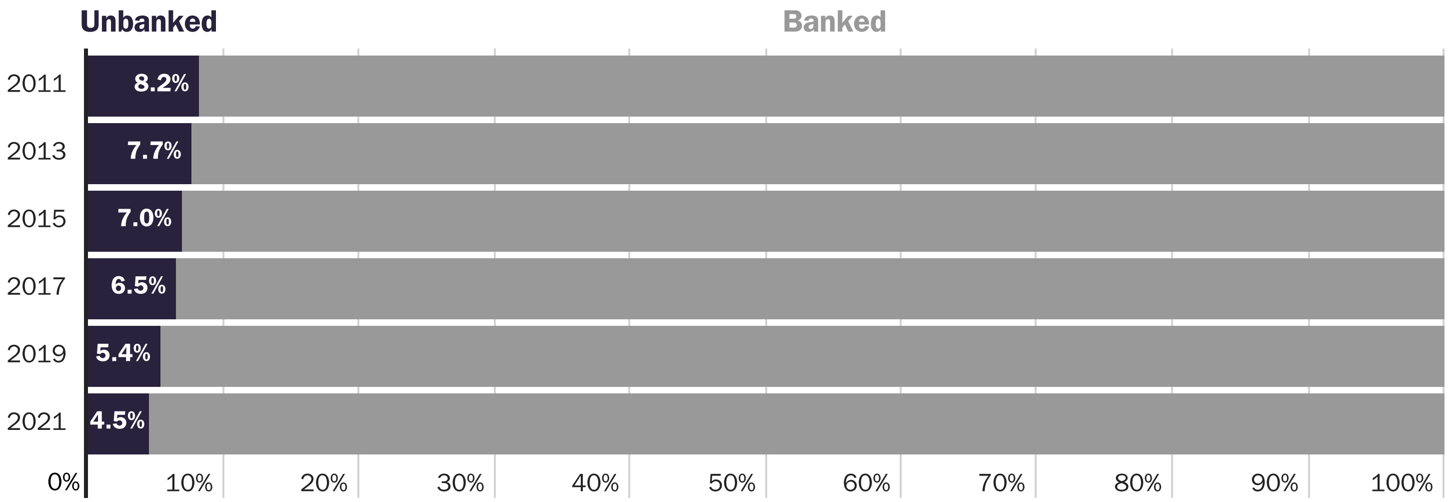
Faster Payments

Many CBDC proponents likewise claim that a CBDC could offer faster payments options. Improving settlement speeds of the payments system in the United States is indeed a noble effort,[14] and other countries have done more to implement real-time payments systems (see Figure 5).[15] Still, a CBDC would fail to provide a unique, or even additional, benefit compared with the existing developments in the private sector.

In 2017, a consortium of private banks finally put the United States on the map with the launch of the Real-Time

Figure 4

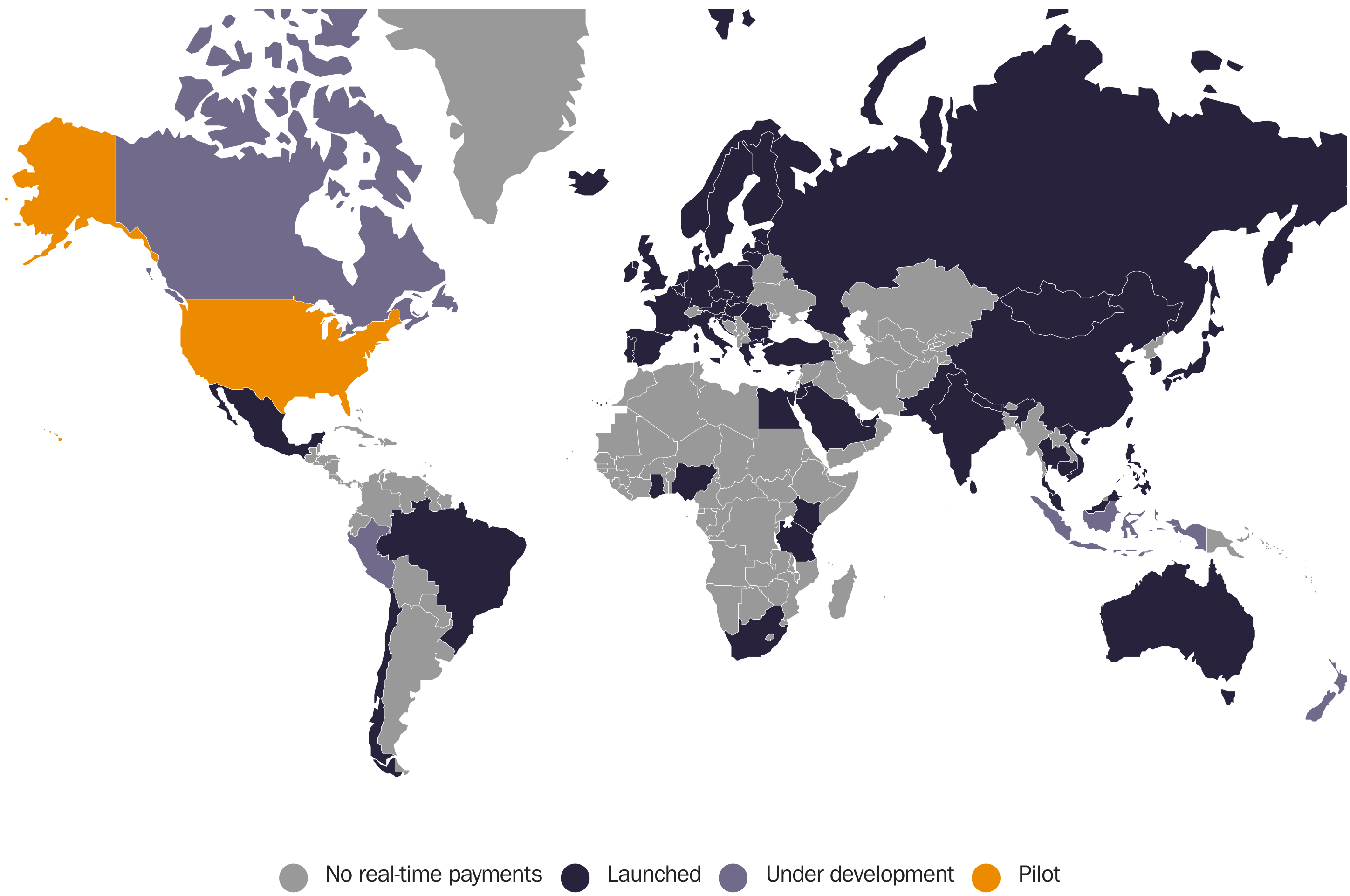
Percent of unbanked households in the United States over time (2011–2021)



Source: Federal Deposit Insurance Corporation, *FDIC National Survey of Unbanked and Underbanked Households* (Washington: FDIC, 2022).

Figure 5

The United States is piloting faster payments, but much of the world has already adopted them



Source: FIS, "Flavors of Fast 2020," June 28, 2021.

Payments (RTP) Network, offering instant settlements for payments across the country.[16] However, the RTP Network has yet to reach its full potential, largely because the Fed interrupted the RTP Network's progress with the sudden announcement that it too would launch an instant settlement network (known as FedNow) in 2023.[17] Now that stablecoins—cryptocurrencies with their value pegged to government currencies, short-term securities, or some type of commodity—offer another private-sector solution to payment delays by making transactions possible 24 hours a day, it appears some are keen on repeating history by having the Fed interrupt this progress with the launch of a CBDC.[18]

With these advances in mind, it should be evident why some government officials have been wary of CBDCs. For instance, Reserve Bank of Australia governor Philip Lowe said, "To date, though, we have not seen a strong public policy case to move [toward a CBDC], especially given Australia's efficient, fast and convenient electronic payments system."[19] Even in the United States, Federal Reserve governor Michelle Bowman said, "My expectation is that FedNow addresses the issues that some have raised about the need for a CBDC."[20] In other words, a CBDC offers no unique settlement advantage to existing alternatives (even imperfect ones like FedNow), many of which already offer instant or nearly instant settlement speeds.

World Reserve Currency

Proponents also claim that preserving the dollar's status as the world's reserve currency is a potential benefit of a CBDC, but this claim also falls short. The dollar's renowned status is owed to the strength of the American economy and its legal protections for private citizens relative to most other countries, not the specific technology enabling electronic transfers.[21] Congress should focus on improving those underlying reasons—not on the latest craze in central banking—if it seeks to strengthen the role of the dollar. For instance, creating stronger financial privacy protections, removing government roadblocks to faster payments speeds, and requiring better transparency in monetary governance would likely benefit the dollar's international status. None of these steps involve issuing a CBDC.[22]

"Going digital" may be an improvement for some foreign currencies, but those currencies still have many other problems that prevent them from being used on an international scale. Moreover, one of the reasons that cryptocurrencies have become so popular is that they have become an important alternative for citizens in many foreign countries whose payments systems are weak and unreliable compared with the U.S. system. The U.S. dollar is in no danger of losing its status simply because the Fed does not have a CBDC, especially if the countries launching CBDCs offer few of the economic and legal protections integral to the U.S. system.

> "The U.S. dollar is in no danger of losing its status simply because the Fed does not have a CBDC, especially if the countries launching CBDCs offer few of the economic and legal protections integral to the U.S. system."

For example, China's CBDC (the e-CNY) is unlikely to attract global demand considering the Chinese government's long history of violating property rights, financial privacy, and other human rights.[23] Likewise, Nigeria's CBDC (the eNaira) is unlikely to attract global demand given Nigeria's volatile inflation and tumultuous history.[24] And finally, the Bahamas's CBDC (the Sand Dollar) is unlikely to attract global demand because the Bahamian dollar doesn't have a wide enough network and the country's economy is not strong enough for it to become an international reserve currency. So where each country faces unique challenges to gaining world reserve status, a CBDC solves nothing.

Monetary and Fiscal Policy

Finally, proponents also argue that a CBDC could improve the implementation of monetary and fiscal policy. Ostensibly, CBDCs would offer the opportunity to fine-tune the economy at the individual level, open the door for charging negative interest rates, and remove credit and liquidity risks from the market. All three claims are misguided.

The suggestion that a CBDC could allow policymakers and regulators to fine-tune the economy is as sanguine as it is concerning. Whether it was the 1970s or the 2010s, it is no secret that the Fed has long struggled to reach its policy targets. In fact, given the Fed's poor track record of managing the price level and business cycles, it is more than plausible that the Fed has worsened overall stability.[25] Nonetheless, some argue that by tracking the financial activity of individual Americans, the Fed could finally steer the economy in a positive direction.

For instance, some CBDC proponents argue that the use of negative interest rates is the tool that's been missing from the Fed's arsenal. Although CBDCs may be new, negative interest rate proposals are not. Proponents have long called for banning cash to implement negative interest rates, and using CBDCs to conduct such a policy would likely require a ban on all alternatives just the same (e.g., cash, cryptocurrencies, foreign currencies, and the like).[26]

Finally, many proponents argue that CBDCs can attract more customers than the private sector because they provide an option with zero credit risk and zero liquidity risk, but this distinction is misleading. The technology behind a CBDC provides no such benefit. These zero-risk features are wholly due to government guarantees that, of course, could be added to any private-sector electronic payment options.[27] Put differently, if Congress wants to ensure that certain payments are conducted with zero liquidity or credit risk, it can do so without a CBDC.

RISKS THAT CANNOT BE IGNORED

Although a CBDC would not offer any unique benefits to Americans compared with existing technologies, it would pose serious risks. In fact, Americans have already noticed that CBDCs pose a substantial threat to financial privacy, financial freedom, and the very foundation of the banking system. And it's these very risks that were cited across over two-thirds of the 2,052 comment letters written to the Fed opposing its plan for a CBDC (see Figure 6).[28]

Financial Privacy

Americans have a right to privacy that is protected by the U.S. Constitution, but the right to *financial* privacy has been chipped away for decades.[29] Laws designed to counter terrorism, deter money laundering, and collect taxes largely provide the government with the ability to conduct unchecked surveillance over financial information.[30] Nonetheless, a CBDC could spell doom for what little protection remains because it would give the federal government complete visibility into every financial transaction by establishing a direct link between the government and each citizen's financial activity.[31]

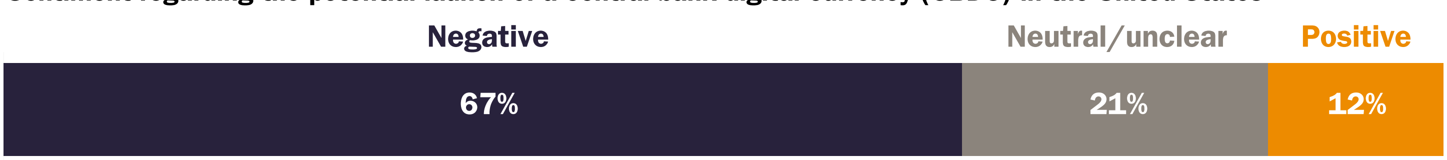
Currently, a buffer exists between the government and the public's financial activity because that activity is spread across all the different commercial banks and payments services that Americans use. The government may not be required to get a warrant to access much of the financial information housed at these different businesses, but tracking down and working with these businesses adds a buffer—albeit a marginal one. If the government were to provide a CBDC, however, that buffer would cease to exist. All financial data would be only a keystroke away. Put simply, a CBDC would most likely be the single largest assault to financial privacy since the creation of the Bank Secrecy Act and the establishment of the third-party doctrine.[32]

Financial Freedom

The threat to freedom that a CBDC might pose is closely related to its threat to privacy. With so much data in hand and consumers so closely connected to the central bank, a CBDC would provide countless opportunities for the government to control citizens' financial transactions.[33] Such control could be preemptive (prohibiting and limiting purchases), behavioral (spurring and curbing purchases), or punitive (freezing and seizing funds).

Figure 6

Sentiment regarding the potential launch of a central bank digital currency (CBDC) in the United States



Sources: Nicholas Anthony, "Update: Two Thirds of Commenters Concerned about CBDC," *Cato at Liberty* (blog), Cato Institute, July 27, 2022. Authors' calculations based on the responses to the Federal Reserve's request for comment on its CBDC discussion paper.

The programming capabilities of a CBDC could mean that people would be prohibited from buying certain goods or limited in how much they might purchase. For example, advocates have quipped that parents could program their children's lunch money with the condition that it can't be spent on sweets.[34] It's important to consider the extended possibilities of such an option. Like parents trying to control their children, policymakers could try to curb drinking by limiting nightly alcohol purchases or prohibiting purchases for people with alcohol-related offenses. In the case of the government-mandated lockdowns during the COVID-19 pandemic, a CBDC could have been programmed to only exchange with "essential" businesses or alert the authorities when citizens incurred travel expenses. The possibilities for the programmability of a CBDC are nearly endless. And in all of them, even the best of intentions are just a few steps away from leading to serious abuses of power.

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Aside from the basic programmability that a CBDC would offer for social and political control, one of its most common features is the ability to pay both positive and negative interest rates to curb and spur purchases. That is, the government provider of a CBDC could easily put money directly into a citizen's account and, just as easily, take money out. Ultimately, implementing such negative interest rate penalties depends on there being no alternative payment methods for consumers, which is one reason that governments introducing CBDCs have been banning cryptocurrencies. But it's not just third-party competitors that would need to be removed—central bankers cannot implement negative rates with CBDCs if people can still switch to cash (paper currency). In fact, eliminating cash (and other monetary alternatives) is precisely what many CBDC proponents call for.[35]

More broadly, governments have long recognized that freezing someone's financial resources is one of the most effective ways to lock an individual out of society.[36] For example, Operation Chokepoint was a U.S. government initiative where officials pressured financial institutions to deny services to politically disfavored businesses (e.g., pawnshops, check cashers, and cannabis dispensaries). As one official described it, the operation was designed to stop these businesses by "choking them off from the very air they need to survive."[37] Internationally, the Canadian government made headlines in 2022 when it invoked the Emergencies Act to freeze the bank accounts of protestors.[38] In fact, this weaponization of the financial system is such a common problem that many people have turned to cryptocurrencies as a solution to overzealous governments that target the financial accounts of protestors and whistleblowers.[39] A CBDC would stand in direct contrast to this new alternative.[40]

Free Markets

There is also a risk that a CBDC could undermine the very foundation of financial markets. Federal Reserve vice chair Lael Brainard explained in a speech:

> If a successful central bank digital currency were to become widely used, it could become a substitute for retail banking deposits. This could restrict banks' ability to make loans for productive economic activities and have broader macroeconomic consequences. Moreover, the parallel coexistence of central bank digital currency with retail banking deposits could raise the risk of runs on the banking system in times of stress and so have adverse implications for financial stability.[41]

Federal Reserve researchers have since attempted to calm this fear by arguing that a CBDC could offer helpful competition to the banks. One paper, for instance, provides a model in which "a deposit-like CBDC with a proper interest rate would encourage banks to pay higher interest to keep their customers" and, therefore, "would not necessarily crowd out private banking." Although the "not necessarily" caveat is likely to prove unconvincing to most private banks, the caveat at the end of the paper demonstrates that the authors' conclusion is more than precarious. The conclusion states, "However . . . [if] the CBDC rate is too high, disintermediation occurs."[42] In other words, if a CBDC is to be made more attractive than private-sector alternatives, then people will leave traditional banks.[43] The banking industry is due for a healthy dose of competition, but it is difficult (if not impossible) to compete with the government because private firms have to charge enough to cover their costs and earn a profit, whereas the government provider of the same service does not have to do so.[44]

It is, therefore, hardly surprising that major banking and credit union associations are publicly opposed to CBDCs.[45] Similarly, there is no doubt that CBDCs also undermine the efficacy of private cryptocurrencies (including stablecoins), a new source of competition to the legacy payments system.[46]

> "Such bans may not be inherent in the design of a CBDC, but there is no denying that CBDCs are being used across the world to combat the existence of cryptocurrencies."

Globally, nations' actions have demonstrated that they want a CBDC specifically to hold on to their monopoly over national currencies. For instance, China banned cryptocurrencies just as its CBDC was launched; India announced its plans for a CBDC while simultaneously calling for a ban on cryptocurrency; and Nigeria prohibited banks from cryptocurrency transactions just as it launched its CBDC. In the United States, Rep. Jesús "Chuy" Garcia (D-IL)—who would later cosponsor a bill to introduce a CBDC—announced the Keep Big Tech Out of Finance Act in an attempt to prohibit large technology companies from offering financial services (e.g., cryptocurrencies).[47] Such bans may not be inherent in the design of a CBDC, but there is no denying that CBDCs are being used across the world to combat the existence of cryptocurrencies.

Cybersecurity

Another concern with a CBDC regards the central storage of financial information. Brainard, for example, has warned that "putting a central bank currency in digital form could make it a very attractive target for cyberattacks by giving threat actors a prominent platform on which to focus their efforts."[48]

Recent history has shown that the federal government is not immune to hacks or data breaches.[49] The private sector is not immune either, but it does have the distinct advantage of being more decentralized than the federal government. Whereas an IRS breach puts all 333 million Americans at risk, a breach at a private financial institution would affect only a fraction of citizens—leaving customers at other banks free from harm.[50]

Likewise, cryptocurrencies (e.g., Bitcoin) are often celebrated for the security of their decentralized systems. A hacker may attempt to "break in" to one computer in the system, but such actions do little to affect the countless other computers across the world that work around the clock to verify the system. A central bank will likely have a more robust security system for its hub than that of the average, individual Bitcoin miner. But the greater difficulty is accompanied by a much greater reward. That reality was made clear when reports revealed that the Federal Reserve had more than 50 cyber breaches between 2011 and 2015.[51] In fact, the Federal Reserve fell victim to hackers when $101 million was stolen in a cyberattack on the Bank of Bangladesh.[52]

RECOMMENDATIONS FOR CONGRESS

To prevent the risks to financial privacy, financial freedom, free markets, and cybersecurity that a CBDC would pose, Congress should explicitly prohibit the Federal Reserve and Treasury from issuing a CBDC in any form. To do so, Congress could amend the Federal Reserve Act as follows:[53]

1. Definitions—
   a. A central bank digital currency is defined as a digital liability of the U.S. government issued or minted by the Federal Reserve or Department of the Treasury.
2. Section 13 of the Federal Reserve Act is amended by adding after the 14th undesignated paragraph (12 U.S.C. 347d) the following:
   a. The Board of Governors of the Federal Reserve System, Federal Reserve banks, or any designated agents may not offer products or services directly to an individual, maintain an account on behalf of an individual, mint a central bank digital currency,

issue a central bank digital currency directly to an individual, or issue a central bank digital currency to an individual through an intermediary or other designated agent.

b. No Federal reserve bank may hold central bank digital currency minted or issued by the United States Government as assets or liabilities on their balance sheets or use digital currencies minted or issued by the United States Government as part of fulfilling the requirements under section 2A.

To prohibit the Treasury from issuing a CBDC, Congress should limit the Treasury's authority to expand existing offerings (e.g., Treasury Direct). For example, the Treasury has already expanded its authority to issue savings bonds to design the myRA (my Retirement Account) program.[54] Congress should amend 31 U.S.C. Section 3105 to prohibit the Treasury from offering or maintaining accounts on behalf of individuals. Likewise, Congress should more explicitly limit the capabilities and payments through the Treasury's Direct Express cards with respect to CBDCs.[55]

"CBDCs have the potential to radically transform the American financial system, and all signs point to that transformation being a detriment to the American people."

To clarify the application of legal tender laws as far as a CBDC might be concerned,[56] Congress could use the following language to amend 31 U.S.C. Section 5103:

3. United States coins and currency (~~including~~ **defined as** Federal reserve notes and circulating notes of Federal reserve banks and national banks) are legal tender for all debts, public charges, taxes, and dues. Foreign gold or silver coins are not legal tender for debts. **Legal tender status does not require private businesses, persons, or organizations to accept** United States **coins and currency as payments for goods and services.**

To prevent the Federal Reserve from further encroaching on the private sector, Congress should also amend the Depository Institutions Deregulation and Monetary Control Act of 1980 to strengthen the explicit requirement for the Federal Reserve to recover its costs when exploring new initiatives.[57] To do so, Congress could strike 12 U.S.C. Section 248a(c)(3) and replace it with the following language:

4. Over ~~the long run~~ **a period of no more than five years**, fees shall be established on the basis of all direct and indirect costs actually incurred in providing the Federal Reserve services priced, including interest on items credited prior to actual collection, overhead, and an allocation of imputed costs which takes into account the taxes that would have been paid and the return on capital that would have been provided had the services been furnished by a private business firm, except that the pricing principles shall give due regard to competitive factors and the provision of an adequate level of such services nationwide.

Finally, Congress should also require that the Fed's compliance with the Depository Institutions Deregulation and Monetary Control Act's cost recovery provisions be subject to regular audits by third parties.[58]

CONCLUSION

CBDCs have the potential to radically transform the American financial system, and all signs point to that transformation being a detriment to the American people. A U.S. CBDC poses substantial risks to financial privacy, financial freedom, free markets, and cybersecurity. Yet the purported benefits fail to stand up to scrutiny. There is no reason for the U.S. government to issue a CBDC when the costs are so high and the benefits are so low.

NOTES

1. “The Promises and Perils of Central Bank Digital Currencies,” Hearing Before the House Committee on Financial Services, 117th Cong., 1st sess., July 27, 2021; Board of Governors of the Federal Reserve System, “Money and Payments: The U.S. Dollar in the Age of Digital Transformation,” January 2022; Carter Pape, “Tech Companies Join ‘Sandbox’ to Test Central Bank Digital Currency Ideas,” *American Banker*, September 1, 2022; Natalie Smolenski and Dan Held, “Why the U.S. Should Reject Central Bank Digital Currencies,” Bitcoin Policy Institute, September 27, 2022; Paul H. Jossey, “Central Bank Digital Currencies Threaten Global Stability and Financial Privacy,” Competitive Enterprise Institute, February 2, 2022; and Nicholas Anthony, “Update: Two Thirds of Commenters Concerned about CBDC,” *Cato at Liberty* (blog), July 27, 2022.

2. Nicholas Anthony, “Questions of CBDC Cronyism Emerge as Fed Launches Pilot,” *Cato at Liberty* (blog), December 1, 2022.

3. For a summary of this paper, see Nicholas Anthony and Norbert Michel, “Central Bank Digital Currency: The Risks and the Myths,” Cato Institute Briefing Paper no. 145, January 10, 2023.

4. Although it is not a central bank, the Treasury could also issue a CBDC. In such a case, the same distinction of government liability applies to the digital national currency (i.e., the CBDC). That is, the government would have the direct responsibility for holding and transferring funds.

5. For a brief breakdown of the different CBDC models, see Nicholas Anthony and Norbert Michel, “A Breakdown of the Different CBDC Models,” *Cato at Liberty* (blog), February 10, 2023.

6. Tao Zhang, “Central Bank Digital Currency” (keynote address at the Conference on China’s Trade and Financial Globalization, London, March 19, 2020); John Kiff et al., “A Survey of Research on Retail Central Bank Digital Currency,” IMF Working Paper no. 2020/104, June 26, 2020; Andrew Ackerman, “Fed Prepares to Launch Review of Possible Central Bank Digital Currency,” *Wall Street Journal*, October 4, 2021; and John Kiff and Jonas Gross, “CBDCs for the People? Where the Current State of Digital Currency Research Leads,” CoinDesk, December 3, 2021.

7. For example, see the recent attempt to turn post offices into banks. Nicholas Anthony, “Only Six People Used the Postal Banking Pilot Program,” *Cato at Liberty* (blog), March 30, 2022.

8. Access to banking services is becoming less and less important given the rise of prepaid cards, cryptocurrencies, decentralized finance, and financial technology services. Each of these innovations has provided not only an avenue for people traditionally unable to access digital payments, but also the opportunity to build wealth and use financial services.

9. Federal Deposit Insurance Corporation, *FDIC National Survey of Unbanked and Underbanked Households* (Washington: FDIC, 2022).

10. Pew Research, “Public Trust in Government: 1958–2022,” June 6, 2022.

11. Likewise, CBDC proponents have also been too quick to ignore the obstacles created by past legislation that have made financial services so costly (e.g., the Durbin Amendment). Norbert Michel, “Central Bank Digital Currencies: A Solution in Search of a Problem,” *Forbes*, June 18, 2021. Moreover, lack of funds can be viewed as a broader economic problem. Federal Deposit Insurance Corporation, *FDIC National Survey of Unbanked and Underbanked Households* (Washington: FDIC, 2022).

12. Federal Deposit Insurance Corporation, “How America Banks: Household Use of Banking and Financial Services,” October 2020.

13. For an idea of how long the development of a CBDC might take, China started its research in 2014 and its CBDC is still in the pilot phase.

14. George Selgin and Aaron D. Klein, “We Shouldn’t Have to Wait for FedNow to Have Faster Payments,” *American Banker*, February 28, 2020; ACI Worldwide, “Global Real-Time Payments Transactions Surge by 41 Percent in 2020 as COVID-19 Pandemic Accelerates Shift to Digital Payments—New ACI Worldwide Research Reveals,” news release, March 29, 2021.

15. FIS, “Flavors of Fast 2020,” June 28, 2021.

16. Norbert Michel, “The Federal Reserve Should Not Compete with Private Firms,” *Forbes*, December 16, 2018; Clearing House, RTP website, “Frequently Asked Questions.”

17. However, to achieve this goal, FedNow could even be shut down today and the Fed could simply expand its operating hours to improve payment speeds. George Selgin, *Facilitating Faster Payments in the U.S.*, Testimony Before the Senate Committee on Banking, Housing, and Urban Affairs, 116th Cong., 1st sess., September 25, 2019; FIS, “Flavors of Fast

2020," June 28, 2021.

18. Nicholas Anthony, "Congress Should Welcome Cryptocurrency Competition," Cato Institute Briefing Paper no. 138, May 2, 2022.

19. Philip Lowe, "Payments: The Future?" (address to the Australian Payments Network Summit 2021, online, December 9, 2021).

20. Michelle W. Bowman, "Technology, Innovation, and Financial Services" (speech given at the VenCent Fintech Conference, Little Rock, AK, August 17, 2022).

21. For instance, Federal Reserve governor Christopher Waller recently acknowledged that "the underlying reasons for why the dollar is the dominant currency have little to do with technology." Christopher J. Waller, "The U.S. Dollar and Central Bank Digital Currencies" (speech given at the Digital Currencies and National Security Tradeoffs symposium, Cambridge, MA, October 14, 2022).

22. Nicholas Anthony, "Congress Should Welcome Cryptocurrency Competition," Cato Institute Briefing Paper no. 138, May 2, 2022; Nicholas Anthony, "The Right to Financial Privacy," Cato Institute Working Paper no. 69, October 14, 2022.

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CITATION

Anthony, Nicholas, and Norbert Michel. "Central Bank Digital Currency: Assessing the Risks and Dispelling the Myths," Policy Analysis no. 941, Cato Institute, Washington, DC, April 4, 2023.