

# Central Bank Digital Currency

## Assessing the Risks and Dispelling the Myths

By Nicholas Anthony and Norbert Michel

November 18, 2022

CATO WORKING PAPER

No. 70



*Cato Working Papers are intended to circulate research in progress for comment and discussion.*

*Available at [www.cato.org/workingpapers](http://www.cato.org/workingpapers)*

# Central Bank Digital Currency: Assessing the Risks and Dispelling the Myths

Nicholas Anthony and Norbert Michel<sup>1</sup>

November 2022

Central bank digital currencies, or CBDCs, have the potential to radically transform the American financial system. They are no longer merely academic musings. Rather, CBDCs have gained the attention of politicians, central bankers, the tech industry, and even the broader public.<sup>1</sup> Government officials, in the United States and abroad, are now actively working to implement CBDCs and solidify government control over payments systems.<sup>2</sup> But this experiment should be left on the drawing board because CBDCs ultimately usurp the private sector and endanger Americans' core freedoms. They have no place in the American economy. Congress should explicitly prohibit the Federal Reserve (the Fed) and the Department of the Treasury (Treasury) from issuing a CBDC in any form.

## 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 distinctly 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, or 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 over 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, Mastercard, etc.). Similarly, when a consumer deposits money into his or her bank account, the deposit in that account is a liability of the bank (e.g., Chase, Capital One, etc.). 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.

---

<sup>1</sup> 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.

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<sup>3</sup>—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.<sup>4</sup> 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, handling complaints, etc.). Most of the policy implications are the same for intermediated and non-intermediated 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. dollars’ status as the world’s reserve currency, and make it easier to implement monetary (or fiscal) policy.<sup>5</sup> Yet, as this brief demonstrates, all four arguments fail to stand up to scrutiny.

## **Financial Inclusion**

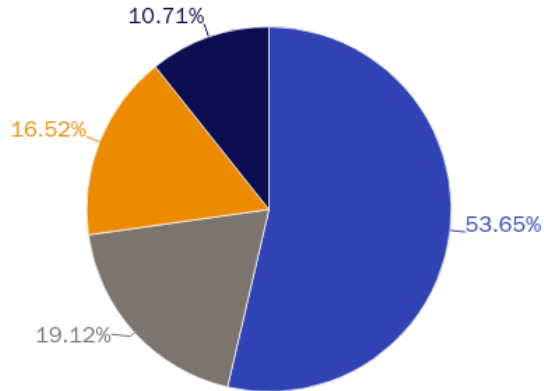
Many CBDC proponents claim that CBDCs would improve financial inclusion by providing a new source of financial services for America’s underbanked and unbanked populations. But much like proponents of other misguided proposals to improve financial inclusion,<sup>6</sup> CBDC proponents ignore the innovations 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.”<sup>7</sup> Over 72% of the unbanked households surveyed said that they were not interested in having a bank account (Figure 1).<sup>8</sup> 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 have a distrust for banks in general (Figure 2).<sup>9</sup>

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) 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 for the U.S. government is at historic lows (Figure 3).<sup>10</sup> In fact, unless a CBDC operates without the same anti-money laundering (AML) and KYC requirements as banks, most unbanked Americans would likely avoid a CBDC.

Figure 1

**Interest in having a bank account, among unbanked households**

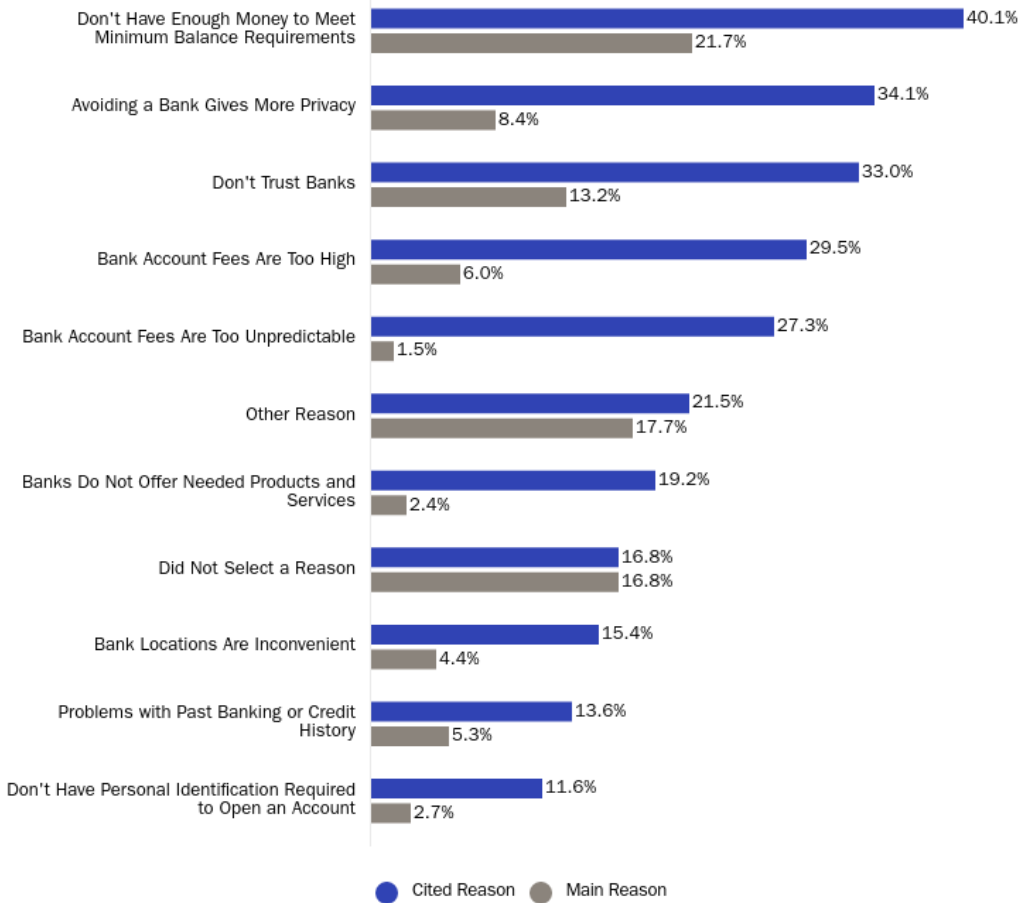


● Not At All Interested ● Not Very Interested ● Somewhat Interested ● Very Interested

Source: FDIC 2022

Figure 2

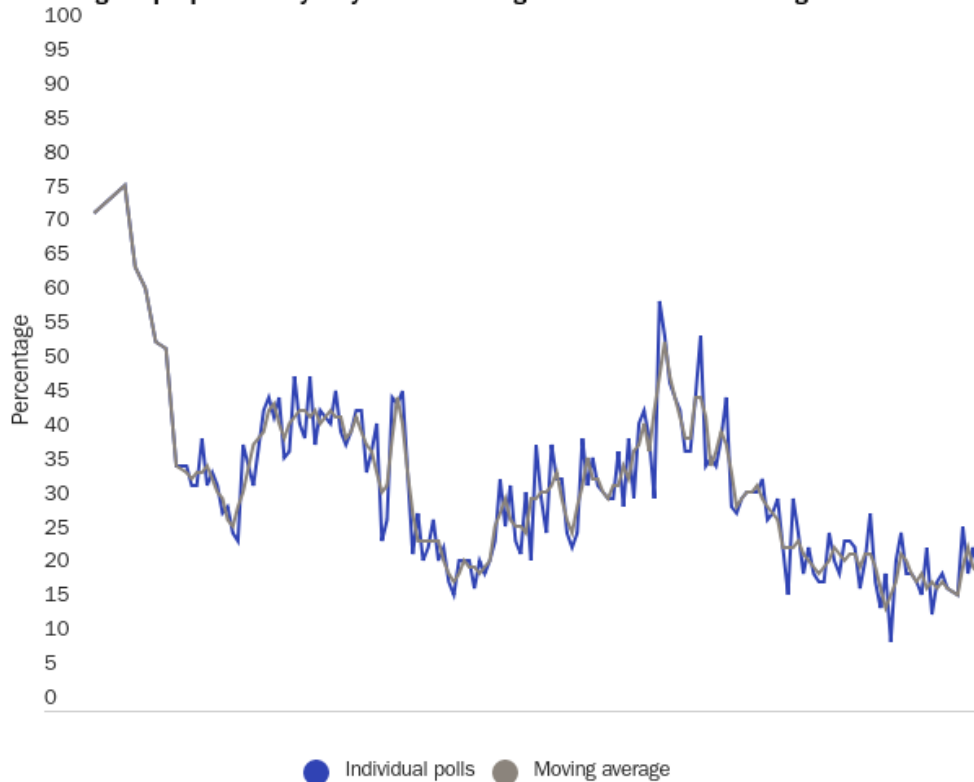
**Reasons for not having a bank account, among unbanked households in 2021 (percentages)**



Source: FDIC 2022

Figure 3

**Percentage of people who say they trust the U.S. government to do what is right**

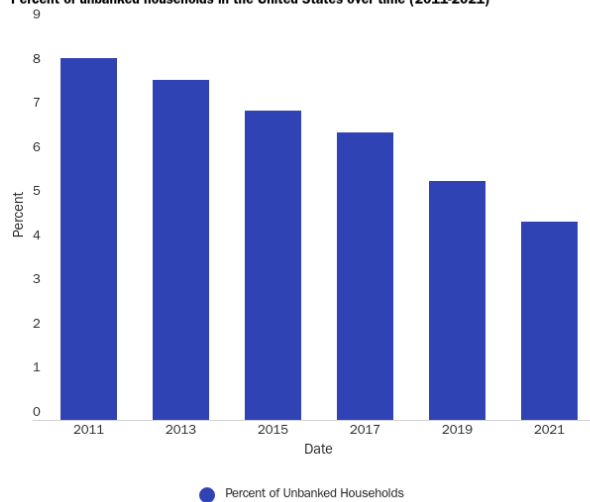


Source: Pew Research

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.<sup>11</sup> 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 (Figure 4).<sup>12</sup> By the time a CBDC is released (which is estimated to take upward of 5 to 10 years), that number might be even lower.<sup>13</sup> 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.

Figure 4  
Percent of unbanked households in the United States over time (2011-2021)



Source: FDIC 2022

## 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,<sup>14</sup> and other countries have done more to implement real time payments systems. (Figure 5).<sup>15</sup> Still, a CBDC would fail to provide a unique, or even additional, benefit compared to the existing developments in the private sector.

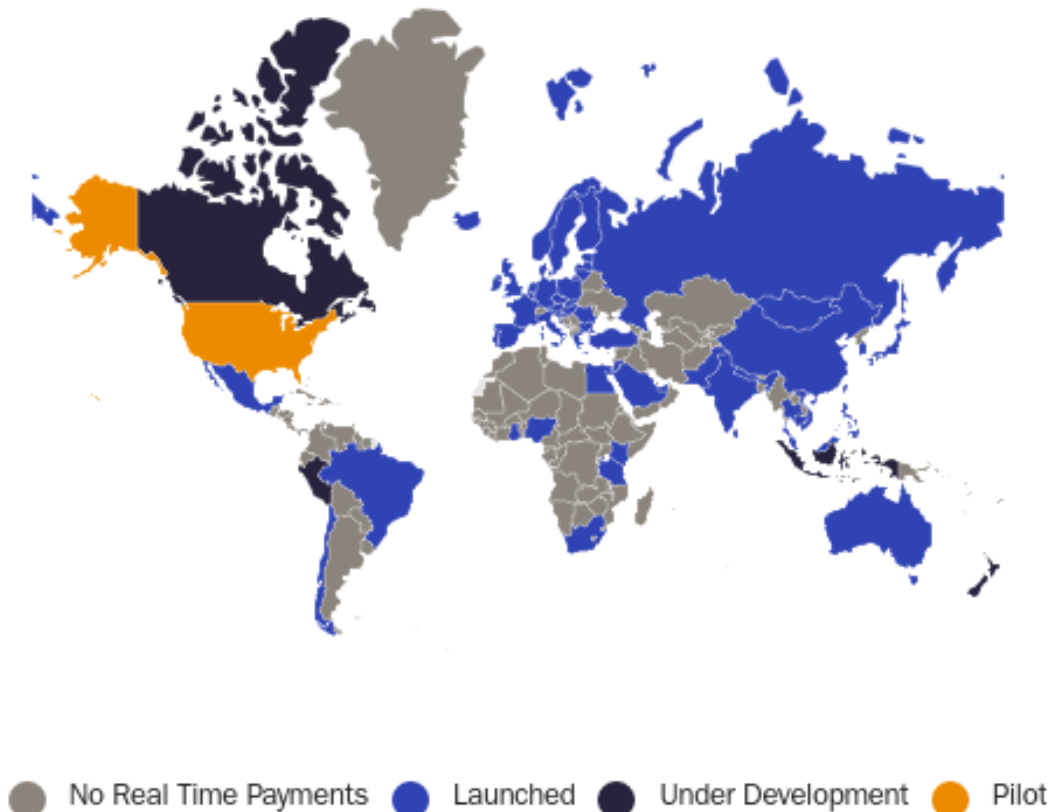
In 2017, a consortium of private banks finally put the United States on the map with the launch of the Real Time Payments (RTP) Network, offering instant settlements for payments across the country.<sup>16</sup> However, the RTP Network has

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.<sup>17</sup> Now that stablecoins offer another private-sector solution to payment delays by making transactions possible 24 hours a day, it seems some are keen on repeating history by having the Fed interrupt this progress with the launch of a CBDC.<sup>18</sup>

With these advances in mind, it should be evident why some government officials have been weary 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

Figure 5

**The United States is in a pilot phase where much of the world leads on**



Source: FIS Global 2020

Australia's efficient, fast and convenient electronic payments system.”<sup>19</sup>

Even in the United States, Federal Reserve Governor Michell Bowman said, “My expectation is that FedNow addresses the issues that some have raised about the need for a CBDC.”<sup>20</sup> In other words, a CBDC offers no unique settlement advantage to existing alternatives, 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.<sup>21</sup> Congress should focus on improving those underlying reasons—not 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.<sup>22</sup>

“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 payment systems are weak and unreliable compared 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.<sup>23</sup> Likewise, Nigeria's CBDC (the eNaira) is unlikely to attract global demand given Nigeria's volatile inflation and tumultuous history.<sup>24</sup> And finally, the Bahamas's CBDC (the Sand Dollar) is unlikely to attract global demand because the Bahamian dollar has neither a wide enough network nor strong enough economy to become an international reserve currency. So, where each country faces a unique challenge 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.<sup>25</sup> Nonetheless, some argue

that by tracking the financial activity of individual Americans, the Fed could finally steer the economy.

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. While 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).<sup>26</sup>

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 which, of course, could be added to any private sector electronic payment

options. 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

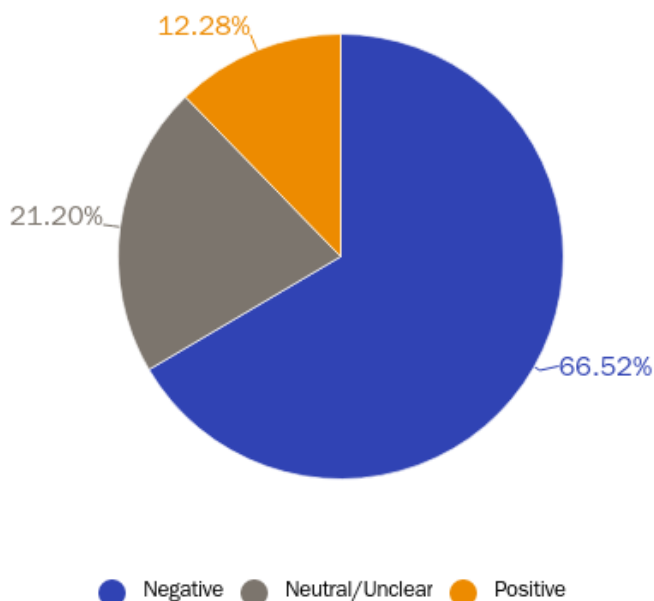
While a CBDC would not offer any unique benefits to Americans compared to existing technologies, it would pose serious risks. In fact, Americans have already noticed that CBDCs pose a substantial threat to financial privacy, financial freedom, and the very foundation of the banking system.<sup>27</sup> And it's these very risks that were cited across over two thirds of the 2,015 comment letters written to the Fed opposing its plan for a CBDC (Figure 7).<sup>28</sup>

## Financial Privacy

Americans have a right to privacy that is protected by the U.S. Constitution, but the

Figure 5

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



Source: Author's calculations based on the responses to the Federal Reserve's request for comment on its CBDC discussion paper.



right to *financial* privacy has been chipped away for decades.<sup>29</sup> 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.<sup>30</sup> Nonetheless, a CBDC could spell doom for what little protections remain because it would give the federal government complete visibility into every financial transaction by establishing a direct link between the government and each citizens' financial activity.<sup>31</sup>

Currently, there exists a buffer 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 only be a keystroke away. Put simply, 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.<sup>32</sup>

## **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.<sup>33</sup> Such control could come in the form of prohibiting and limiting purchases, spurring and curbing purchases, or freezing and seizing funds.

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.<sup>34</sup> 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 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 near endless. And in all of them, even the best of intentions are just a few steps away from leading to serious abuses of power.

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 can 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.<sup>35</sup>

More broadly, governments have long recognized that freezing someone’s financial resources is one of the most effective ways to lock them out of society.<sup>36</sup> For example, Operation Chokepoint was a U.S. government operation where officials pressured financial institutions to deny services to politically disfavored businesses (e.g., pawn shops, check cashers, 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.”<sup>37</sup> Internationally, 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.<sup>38</sup> A CBDC would stand in direct contrast to this new alternative.<sup>39</sup>

## 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.<sup>40</sup>

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 where “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.”<sup>41</sup> While 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 that “However... [if] the CBDC rate is too high, disintermediation occurs.”<sup>42</sup>

It is, therefore, hardly surprising that major banking and credit union associations are publicly opposed to CBDCs.<sup>43</sup> 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.<sup>44</sup>

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 it’s 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, Representative Jesus “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).<sup>45</sup> Such bans may not be inherent to 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. Federal Reserve vice chair Lael 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.”<sup>46</sup>

Recent history has shown that the federal government is not immune from hacks or data breaches.<sup>47</sup> The private sector is not immune either, but it does have the distinct advantage of being decentralized relative to the federal government. Where an IRS breach puts all 331 million Americans at risk, a breach at a private financial institution would only affect a fraction of

citizens—leaving customers at other banks free from harm.<sup>48</sup>

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 greater reward. That reality was made clear when reports revealed the Federal Reserve had more than 50 cyber breaches between 2011 and 2015.<sup>49</sup> In fact, the Federal Reserve fell victim to hackers when \$101 million was stolen in a cyber-attack on the Bank of Bangladesh.<sup>50</sup>

## Recommendations for Congress

To prevent the risks to financial privacy, financial freedom, free markets, and cyber security 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:<sup>51</sup>

(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 14<sup>th</sup> 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.<sup>52</sup> 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.<sup>53</sup>

To clarify the application of legal tender laws as far as a CBDC might be concerned,<sup>54</sup> Congress could use the following language to amend 31 U.S.C. Section 5103:

- (1) 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 1980 Depository Institutions Deregulation and Monetary Control Act to strengthen the explicit requirement for the Federal Reserve to recover its costs when exploring new initiatives.<sup>55</sup> To do so, Congress could strike U.S.C. Section 248a(c)(3) and replace it with the following language:

- (1) 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 are subject to regular audits by third parties.<sup>56</sup>

## Conclusion

CBDCs have the potential to radically transform the American financial system and all signs point to that transformation being to the detriment of 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. CBDCs have certainly made central banks the talk of the town and thrown a splash of life into an otherwise dense policy field. But 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.

## End Notes

---

<sup>1</sup> U.S. House Committee on Financial Services, “The Promises and Perils of Central Bank Digital Currencies,” Hearing, July 27, 2021, <https://financialservices.house.gov/events/eventsingle.aspx?EventID=408111>; Board of Governors of the Federal Reserve System, “Money and Payments: The U.S. Dollar in the Age of Digital Transformation,” Publications, January, 2022, <https://www.federalreserve.gov/publications/files/money-and-payments-20220120.pdf>; Carter Pape, “Tech Companies Join ‘Sandbox’ to Test Central Bank Digital Currency Ideas,” American Banker, September 1, 2022, <https://www.americanbanker.com/news/tech-companies-join-sandbox-to-test-central-bank-digital-currency-ideas>; Natalie Smolenski and Dan Held, “Why the U.S. Should Reject Central Bank Digital Currencies,” Bitcoin Policy Institute, September 27, 2022, <https://www.btcpolicy.org/articles/why-the-u-s-should-reject-central-bank-digital-currencies>; Paul H. Jossey, “Central Bank Digital Currencies Threaten Global Stability and Financial Privacy,” Competitive Enterprise Institute, February 2, 2022, <https://cei.org/studies/central-bank-digital-currencies-threaten-global-stability-and-financial-privacy/>; Nicholas Anthony, “Update: Two Thirds of Commenters Concerned about CBDC,” *Cato at Liberty* (blog), Cato Institute, July 27, 2022, <https://www.cato.org/blog/update-two-thirds-commenters-concerned-about-cbdc>.

<sup>2</sup> Nicholas Anthony, “The Biden-Cryptocurrency Reports: Part 5, The Future of Money and Payments,” *Cato at Liberty* (blog), Cato Institute, September 20, 2022, <https://www.cato.org/blog/biden-cryptocurrency-reports-part-5-future-money-payments>.

<sup>3</sup> 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.

<sup>4</sup> For a brief breakdown of the different CBDC models, see Norbert Michel and Nicholas Anthony, “A Breakdown of the Different CBDC Models,” Cato Institute, FORTHCOMING.

<sup>5</sup> Tao Zhang, “Keynote Address on Central Bank Digital Currency,” International Monetary Fund, March 19, 2020, <https://www.imf.org/en/News/Articles/2020/03/19/sp031920-deputy-managing-director-tao-zhangs-keynote-address-on-central-bank-digital-currency>; John Kiff, Jihad Alwazir, Sonja Davidovic, Aquiles Farias, Ashraf Khan, Tanai Khiaonarong, Majid Malaika, Hunter K Monroe, Nobu Sugimoto, Hervé Tourpe, and Peter Zhou, “A Survey of Research on Retail Central Bank Digital Currency,” IMF Working Paper, June 26, 2020, <https://www.imf.org/en/Publications/WP/Issues/2020/06/26/A-Survey-of-Research-on-Retail->

---

[Central-Bank-Digital-Currency-49517](#); Andrew Ackerman, “Fed Prepares to Launch Review of Possible Central Bank Digital Currency,” *Wall Street Journal*, October 4, 2021, <https://www.wsj.com/articles/fed-launches-review-of-possible-central-bank-digital-currency-11642706158>; John Kiff and Jonas Gross, “CBDCs for the People? Where the Current State of Digital Currency Research Leads,” *CoinDesk*, December 3, 2021, <https://www.coindesk.com/policy/2021/12/03/cbdcs-for-the-people-where-the-current-state-of-digital-currency-research-leads/>.

<sup>6</sup> 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), Cato Institute, March 30, 2022, <https://www.cato.org/blog/only-six-people-used-postal-banking-pilot-program>.

<sup>7</sup> Access to banking services is becoming less and less important given the rise of prepaid cards, cryptocurrencies, decentralized finance (DeFi), and financial technology (fintech) services. Each of these innovations has not only provided an avenue for people traditionally unable to access digital payments, but also the opportunity to build wealth and use financial services.

<sup>8</sup> Federal Deposit Insurance Corporation, “FDIC National Survey of Unbanked Households,” October 2022, <https://www.fdic.gov/analysis/household-survey/2021report.pdf>.

<sup>9</sup> Federal Deposit Insurance Corporation, “FDIC National Survey of Unbanked Households,” October 2022, <https://www.fdic.gov/analysis/household-survey/2021report.pdf>.

<sup>10</sup> Pew Research, “Public Trust in Government: 1958-2022,” June 6, 2022, <https://www.pewresearch.org/politics/2022/06/06/public-trust-in-government-1958-2022/>.

<sup>11</sup> 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, <https://www.forbes.com/sites/norbertmichel/2021/06/18/central-bank-digital-currencies-a-solution-in-search-of-a-problem>. Moreover, lack of funds can be viewed as a broader economic problem. Federal Deposit Insurance Corporation, “FDIC National Survey of Unbanked Households,” October 2022, <https://www.fdic.gov/analysis/household-survey/2021report.pdf>.

<sup>12</sup> Federal Deposit Insurance Corporation, “How America Banks: Household Use of Banking and Financial Services,” October 2020, [https://economicinclusion.gov/downloads/2019\\_FDIC\\_Unbanked\\_HH\\_Survey\\_Report.pdf](https://economicinclusion.gov/downloads/2019_FDIC_Unbanked_HH_Survey_Report.pdf).

<sup>13</sup> For an idea of how long a CBDC might take to be developed, China started its research in 2014 and still has its CBDC in the pilot phase.

<sup>14</sup> George Selgin and Aaron Klein, “We Shouldn’t Have to Wait for FedNow to Have Faster Payments,” *American Banker*, February 28, 2020, <https://www.cato.org/publications/commentary/we-shouldnt-have-wait-fednow-havefaster-payments>; ACI Worldwide, “Global Real-Time Payments Transactions by 41 Percent in 2020 as COVID-19 Pandemic Accelerates Shift to Digital Payments – New ACI Worldwide Research Reveals,” Press Release, March 29, 2021, <https://investor.aciworldwide.com/news-releases/news-release-details/global-real-time-payments-transactions-surge-41-percent-2020>.

<sup>15</sup> FIS, “Flavors of Fast 2020,” June 28, 2021, [https://empower1.fisglobal.com/rs/650-KGE-239/images/Flavors-of-Fast-Report\\_2020.pdf](https://empower1.fisglobal.com/rs/650-KGE-239/images/Flavors-of-Fast-Report_2020.pdf).

<sup>16</sup> Norbert Michel, “The Federal Reserve Should Not Compete with Private Firms,” *Forbes*, December 16, 2018, <https://www.forbes.com/sites/norbertmichel/2018/12/16/the-federal-reserve-should-not-compete-with-privatefirms>; The Clearing House, “RTP,” Frequently Asked Questions, <https://www.theclearinghouse.org/payment-systems/rtp/institution>.

---

<sup>17</sup> Though to achieve this goal, FedNow could even be shut down today and the Fed could simply expand its operating hours to improve payments speeds. George Selgin, “Facilitating Faster Payments in the U.S.,” Cato Institute, September 25, 2019,

<https://www.cato.org/testimony/facilitating-faster-payments-us>; FIS, “Flavors of Fast 2020,” June 28, 2021, [https://empower1.fisglobal.com/rs/650-KGE-239/images/Flavors-of-Fast-Report\\_2020.pdf](https://empower1.fisglobal.com/rs/650-KGE-239/images/Flavors-of-Fast-Report_2020.pdf).

<sup>18</sup> Nicholas Anthony, “Congress Should Welcome Cryptocurrency Competition,” Cato Institute Briefing Paper no. 138, May 2, 2022, <https://www.cato.org/briefing-paper/congress-should-welcome-cryptocurrency-competition>.

<sup>19</sup> Philip Lowe, “Payments: The Future?,” Reserve Bank of Australia, December 9, 2021, <https://www.rba.gov.au/speeches/2021/sp-gov-2021-12-09.html>.

<sup>20</sup> Michelle Bowman, “Technology, Innovation, and Financial Services,” Board of Governors of the Federal Reserve System, August 17, 2022, <https://www.federalreserve.gov/newsevents/speech/bowman20220817a.htm>.

<sup>21</sup> 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 Waller, “The U.S. Dollar and Central Bank Digital Currencies,” Speech, October 14, 2022,

<https://www.federalreserve.gov/newsevents/speech/waller20221014a.htm>.

<sup>22</sup> Nicholas Anthony, “Congress Should Welcome Cryptocurrency Competition,” Cato Institute Briefing Paper no. 138, May 2, 2022, <https://www.cato.org/briefing-paper/congress-should-welcome-cryptocurrency-competition>; Nicholas Anthony, “The Right to Financial Privacy,” Cato Institute Working Paper no. 69, <https://www.cato.org/working-paper/crafting-better-framework-financial-privacy-digital-age>.

<sup>23</sup> As James Dorn notes, “The dollar has earned its status as a safe-haven currency because it is backed by trust in U.S. institutions that safeguard basic freedoms and private property rights. China lacks those institutions and trust.” James Dorn, “China’s Digital Yuan: A Threat to Freedom,” *Cato at Liberty* (blog), Cato Institute, August 25, 2021, <https://www.cato.org/blog/chinas-digital-yuan-threat-freedom>. See also, Dean Cheng, Norbert Michel, and Klion Kitchen, “China’s Cryptocurrency Plans Are About Power, Not Innovation,” Heritage Foundation, November 22, 2019, <https://www.heritage.org/sites/default/files/2019-11/IB5014.pdf>.

<sup>24</sup> United States Institute of Peace, “The Current Situation in Nigeria: A USIP Fact Sheet,” August 11, 2021, <https://www.usip.org/publications/2021/08/current-situation-nigeria>.

<sup>25</sup> George Selgin, William D. Lastrapes, and Lawrence H. White, “Has the Fed Been a Failure?,” *Journal of Macroeconomics*, September 2012, <https://www.sciencedirect.com/science/article/abs/pii/S0164070412000304>.

<sup>26</sup> Proponents of banning all monetary alternatives often fail to recognize both the implications of implementing what is a de facto comprehensive tax for holding money and the lessons of public choice economics. Jeffrey Rogers Hummel, “Should Governments Restrict Cash?,” Cato Institute, November 14, 2018, <https://www.cato.org/policy-analysis/should-governments-restrict-cash>.

<sup>27</sup> Nicholas Anthony, “Update: Two Thirds of Commenters Concerned About CBDC,” *Cato at Liberty* (blog), Cato Institute, July 27, 2022, <https://www.cato.org/blog/update-two-thirds-commenters-concerned-about-cbdc>.

- 
- <sup>28</sup> Nicholas Anthony, “Update: Two Thirds of Commenters Concerned About CBDC,” *Cato at Liberty* (blog), Cato Institute, July 27, 2022, <https://www.cato.org/blog/update-two-thirds-commenters-concerned-about-cbdc>.
- <sup>29</sup> Nicholas Anthony, “Why Don’t Americans Have Stronger Financial Privacy Rights?,” Cato Institute, *Cato at Liberty* (blog), October 28, 2021, <https://www.cato.org/blog/why-dont-americans-have-stronger-financial-privacy-rights>.
- <sup>30</sup> Nicholas Anthony, “The Right to Financial Privacy,” Cato Institute Working Paper no. 69, <https://www.cato.org/working-paper/crafting-better-framework-financial-privacy-digital-age>.
- <sup>31</sup> For instance, Marta Belcher, president and chair of the Filecoin Foundation, described it saying, “[CBDCs] give the government the ability to have absolute visibility into financial transactions.” Cato Institute, “Financial Privacy in a Digital Era,” Live Online Policy Forum, April 21, 2022, <https://www.cato.org/events/financial-privacy-digital-era>.
- <sup>32</sup> Norbert J. Michel and Jennifer J. Schulp, “Revising the Bank Secrecy Act to Protect Privacy and Deter Criminals,” Policy Analysis No. 932, Cato Institute, July 26, 2022, <https://www.cato.org/policy-analysis/revising-bank-secrecy-act-protect-privacy-deter-criminals>; Nicholas Anthony, “The Right to Financial Privacy,” Cato Institute Working Paper no. 69, <https://www.cato.org/working-paper/crafting-better-framework-financial-privacy-digital-age>.
- <sup>33</sup> Norbert Michel, “Central Bank Digital Currencies Are About Control—They Should Be Stopped,” *Forbes*, April 12, 2022, <https://www.forbes.com/sites/norbertmichel/2022/04/12/central-bank-digital-currencies-are-about-control--they-should-be-stopped>.
- <sup>34</sup> Sam Benstead, “Freedom or Slavery: the ‘Bitcoin’ Conundrum,” *Daily Telegraph*, August 14, 2021, <https://www.pressreader.com/uk/the-daily-telegraph-your-money/20210814/281706912749176>.
- <sup>35</sup> Mohammad Davoodalhosseini, Francisco Rivadeneyra, and Yu Zhu, “CBDC and Monetary Policy,” Bank of Canada, February 2020, <https://www.bankofcanada.ca/2020/02/staff-analytical-note-2020-4/>; Eswar S. Prasad, “The Case for Central Bank Digital Currencies,” *Cato Journal*, 2021, [http://prasad.dyson.cornell.edu/doc/Cato\\_CBDC\\_Summer2021.pdf](http://prasad.dyson.cornell.edu/doc/Cato_CBDC_Summer2021.pdf).
- <sup>36</sup> Howard Anglin, “In Our Cashless Society, We Need to Take Digital Jail Seriously,” The Hub, February 22, 2022, <https://thehub.ca/2022-02-22/howard-anglin-in-our-cashless-society-we-need-to-take-digital-jail-seriously/>.
- <sup>37</sup> Alan Zibel and Brent Kendall, “Probe Turns Up Heat on Banks,” *Wall Street Journal*, August 7, 2013, <https://www.wsj.com/articles/SB10001424127887323838204578654411043000772>.
- <sup>38</sup> Yomi Kazeem, “How Bitcoin Powered the Largest Nigerian Protests in a Generation,” *Quartz*, October 26, 2020, <https://qz.com/africa/1922466/how-bitcoin-powered-nigerias-endsars-protests>.
- <sup>39</sup> Andrey Sergeenkov, “China Crypto Bans: A Complete History,” *CoinDesk*, September 29, 2021, <https://www.coindesk.com/learn/china-crypto-bans-a-complete-history/>; Nicholas Anthony, “India Seeks to Criminalize Cryptocurrencies,” Foundation for Economic Education, March, 26, 2021, <https://fee.org/articles/india-seeks-to-criminalize-cryptocurrencies/>.
- <sup>40</sup> Lael Brainard, “Cryptocurrencies, Digital Currencies, and Distributed Ledger Technologies: What Are We Learning?,” Speech, May 15, 2018, <https://www.federalreserve.gov/newsevents/speech/brainard20180515a.htm>.
- <sup>41</sup> Jonathan Chiu, Mohammad Davoodalhosseini, Janet Jiang, and Yu Zhu, “Bank Market Power and Central Bank Digital Currency: Theory and Quantitative Assessment,” Bank of Canada, September 2022, <https://www.bankofcanada.ca/wp-content/uploads/2019/05/swp2019-20.pdf>.



---

<sup>42</sup> Jonathan Chiu, Mohammad Davoodalhosseini, Janet Jiang, and Yu Zhu, “Bank Market Power and Central Bank Digital Currency: Theory and Quantitative Assessment,” Bank of Canada, September 2022, <https://www.bankofcanada.ca/wp-content/uploads/2019/05/swp2019-20.pdf>.

<sup>43</sup> Gregory Baer, “Central Bank Digital Currencies: Costs, Benefits and Major Implications for the U.S. Economic System,” Bank Policy Institute, April 7, 2021, <https://bpi.com/central-bank-digital-currencies-costs-benefits-and-major-implications-for-the-u-s-economic-system/>; Gregory Baer and Paige Pidano Paridon, “The Waning Case for a Dollar CBDC,” Bank Policy Institute, February 18, 2022, <https://bpi.com/the-waning-case-for-a-dollar-cbdc/>; Nicholas Anthony, “Update: Two Thirds of Commenters Concerned About CBDC,” *Cato at Liberty* (blog), Cato Institute, July 27, 2022, <https://www.cato.org/blog/update-two-thirds-commenters-concerned-about-cbdc>.

<sup>44</sup> If there are any doubts, one need only look to how the conversation changed once Meta (f.k.a., Facebook) announced Diem (f.k.a., Libra). Norbert Michel, “Facebook’s Zuckerberg Should Stand Firm on Libra,” *Forbes*, October 21, 2019, <https://www.forbes.com/sites/norbertmichel/2019/10/21/facebook-zuckerberg-should-stand-firm-on-libra>; Norbert Michel, “The Fed Does Not Need Fedcoin to Protect Consumers,” *Forbes*, February 10, 2020, <https://www.forbes.com/sites/norbertmichel/2020/02/10/the-fed-does-not-need-fedcoin-to-protect-consumers>.

<sup>45</sup> Jesus Garcia, “Keep Big Tech Out of Finance Act,” H.R. 4813, United States Bill, November 13, 2019, <https://www.congress.gov/bill/116th-congress/house-bill/4813>; Stephen Lynch, “Rep. Lynch Introduces Legislation to Develop Electronic Version of U.S. Dollar,” Press Releases, March 28, 2022, <https://lynch.house.gov/2022/3/rep-lynch-introduces-legislation-to-develop-electronic-version-of-u-s-dollar>.

<sup>46</sup> Lael Brainard, “Cryptocurrencies, Digital Currencies, and Distributed Ledger Technologies: What Are We Learning?,” Speech, May 15, 2018, <https://www.federalreserve.gov/newsevents/speech/brainard20180515a.htm>.

<sup>47</sup> Nathan Lynch and Brett Wolf, “U.S. FinCEN Leaks to Have ‘Chilling Effect’ on Fight Against Financial Crime, Say AML Experts,” Thomson Reuters, September 18, 2020, <https://www.thomsonreuters.com/en-us/posts/investigation-fraud-and-risk/fincen-leaks-aml/>.

<sup>48</sup> For example, Bank of America has approximately 67 million customers. Bank of America, “Bank of America Clients’ 1 Billion Digital Logins in July Mark the Highest Month Ever,” Newsroom, August 25, 2022, <https://newsroom.bankofamerica.com/content/newsroom/press-releases/2022/08/bank-of-america-clients--1-billion-digital-logins-in-july-mark-t.html>.

<sup>49</sup> Jason Lange and Dustin Volz, “Exclusive: Fed Records Show Dozens of Cybersecurity Breaches,” Reuters, June 1, 2016, <https://www.reuters.com/article/us-usa-fed-cyber/exclusive-fed-records-show-dozens-of-cybersecurity-breaches-idUSKCN0YN4AM>.

<sup>50</sup> Krishna N. Das and Jonathan Spicer, “How the New York Fed Fumbled Over the Bangladesh Bank Cyber-Heist,” Reuters, July 21, 2016, <https://www.reuters.com/investigates/special-report/cyber-heist-federal/>.

<sup>51</sup> This language is modified from the work of Representative Tom Emmer, Senator Ted Cruz, and Senator Mike Lee. Tom Emmer, “Emmer Introduces Legislation to Prevent Unilateral Fed Control of a U.S. Digital Currency,” Press Releases, January 12, 2022, [https://emmer.house.gov/press-releases?ContentRecord\\_id=1DC88783-A271-4F74-851D-5D234364DCEF](https://emmer.house.gov/press-releases?ContentRecord_id=1DC88783-A271-4F74-851D-5D234364DCEF); Ted Cruz, “Sen. Cruz Introduces Legislation Prohibiting Unilateral Fed Control of a U.S. Digital Currency,” Press Releases, March 30, 2022, <https://www.cruz.senate.gov/newsroom/press-releases/sen-cruz-introduces-legislation->

---

[prohibiting-unilateral-fed-control-of-a-us-digital-currency](#); Mike Lee, “Senator Lee Introduces the No CBDC Act,” Press Releases, September 14, 2022,

<https://www.lee.senate.gov/2022/9/senator-lee-introduces-the-no-cbdc-act>.

<sup>52</sup> Barack Obama, “Retirement Savings Security,” Federal Register, January 29, 2014,

<https://www.govinfo.gov/content/pkg/FR-2014-02-04/pdf/2014-02423.pdf>.

<sup>53</sup> Bureau of the Fiscal Service, “Direct Express,” <https://www.fiscal.treasury.gov/directexpress/>.

<sup>54</sup> Paige Pidano Paridon, “Legal Authority to Issue a U.S. Central Bank Digital Currency,” Bank Policy Institute, June 9, 2021, <https://bpi.com/legal-authority-to-issue-a-u-s-central-bank-digital-currency>.

<sup>55</sup> The Federal Reserve’s ability to ignore costs and crowd out the private sector came up during the initial announcement of FedNow. George Selgin, “Facilitating Faster Payments,” Cato Institute, September 25, 2019, <https://www.cato.org/testimony/facilitating-faster-payments-us>.

<sup>56</sup> George Selgin, “Facilitating Faster Payments in the U.S.,” Cato Institute, September 25, 2019, <https://www.cato.org/testimony/facilitating-faster-payments-us>.