FedAccounts: Digital Dollars

*John Crawford, Lev Menand & Morgan Ricks**

Abstract

We are entering a new monetary era. Central banks around the world—spurred by the development of privately controlled digital currencies as well as competition from other central banks—have been studying, building, and, in some cases, issuing central bank digital currency ("CBDC").

Although digital fiat currency is one of the hottest topics in macroeconomics and central banking today, the discussion has largely overlooked the most straightforward and appealing strategy for implementing a U.S. dollar-based CBDC: expanding access to bank accounts that the Federal Reserve already offers to a small, favored set of clients. These accounts consist of entries in a digital ledger—like other digital currencies—and are extremely desirable, offering high interest, instant payments, and full government backing with no limit. But U.S. law restricts these accounts to an exclusive clientele consisting primarily of banks. Privileged access to these accounts creates a striking asymmetry at the core of our monetary framework: government-issued physical currency is available to all, but government-issued digital currency (in the form of central bank accounts) is not.

This dichotomy is unwarranted. Congress should authorize the Federal Reserve to give everyone—individuals, businesses, and institutions—the option to maintain accounts at the central bank. We call these accounts FedAccounts. Unlike the CBDC approaches currently under discussion, which would use complicated and inefficient distributed ledger technology and be walled off from the existing system of money and payments, FedAccounts would be seamlessly interoperable with the mainstream payment system, relying on technologies that the Federal Reserve has used for decades.

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* Respectively, Professor of Law, UC Hastings College of the Law; Academic Fellow and Lecturer in Law, Columbia Law School; and Professor of Law and Enterprise Scholar, Vanderbilt University Law School. Thanks to Mehrsa Baradaran, Sarah Bloom Raskin, Christine Desan, Marcel Kahan, Mervyn King, Michael Klausner, Adam Levitin, Geoffrey Miller, Simon Potter, Joe Sommer, Jeremy Stein, faculty workshop participants at the New York University School of Law, and conference participants at Vanderbilt University Law School and Harvard Law School for very helpful comments.

Introduction

We are on the cusp of a new monetary era. Facebook's announcement in 2019 that it plans to launch a digital currency called Libra[1] sent shockwaves through the rarefied world of central banking.[2] Although most central bankers greeted the emergence of Bitcoin and other decentralized cryptocurrencies with relative equanimity,[3] Libra presented something much more formidable because it is backed by the technical prowess, financial heft, and vast customer base of a leading technology giant. Even if Libra fails to take off, it is unlikely to be

1 Libra Ass'n Members, An Introduction to Libra 4 (2019).

2 *See* Kenneth Rogoff, *The High Stakes of the Coming Digital Currency War*, Project Syndicate (Nov. 11, 2019), https://www.project-syndicate.org/commentary/global-battle-for-digital-currency-supremacy-by-kenneth-rogoff-2019-11?barrier=accesspaylog [https://perma.cc/PC36-R6K8] ("If nothing else, Libra has inspired many advanced-economy central banks to accelerate their programs to provide broader-based retail digital currencies . . . .").

3 *See* Alastair Marsh, *Why Central Bankers Got Serious About Digital Cash*, Bloomberg Businessweek (Oct. 20, 2019, 2:00 AM), https://www.bloomberg.com/news/articles/2019-10-20/why-central-bankers-got-serious-about-digital-cash-quicktake [https://perma.cc/6QEP-2YKY].

the end of the story.[4] Today's tech companies have the scale and consumer reach, not to mention the incentive, to create private digital moneys that threaten to compete with or even displace the public moneys that central banks issue and manage.

The result has been a rapidly growing official sector debate about whether central banks should issue digital currencies of their own—so-called central bank digital currencies ("CBDCs"). Leading economists have counseled that CBDCs are necessary to "ensure[ ] that public money remains a relevant unit of account" in the face of "digital currencies associated with large platform ecosystems."[5] In 2020, the People's Bank of China began piloting a CBDC, the eCNY, in several large cities—adding a further impetus to other central banks to introduce their own products.[6] The stakes are especially high for the United States because a successful digital currency—whether controlled by a private company or a foreign government—could imperil the dollar's status as the dominant global currency, a source of "exorbitant privilege" for Americans.[7]

Although this is one of the hottest topics in macroeconomics and central banking today, the discussion has largely overlooked the most straightforward and appealing strategy for implementing a U.S. dollar-based CBDC: expanding access to the bank accounts the Federal Reserve ("Fed") already offers to a small, favored set of clients. These accounts consist of entries in a digital ledger—just like other digital currencies[8]—and are extremely desirable, offering high interest, in-

4 Another proposed "global currency" called Saga has already launched. Martin Arnold, *Saga Launches Its Cryptocurrency as Libra Waits in the Wings*, Fin. Times (Dec. 18, 2019), https://www.ft.com/content/88133ee0-201b-11ea-b8a1-584213ee7b2b [https://perma.cc/E9XR-SQ7K].

5 Markus K. Brunnermeier, Harold James & Jean-Pierre Landau, The Digitalization of Money 1 (Aug. 2019) (unpublished manuscript) (on file with author).

6 Alun John, *Explainer: How Does China's Digital Yuan Work?*, Reuters (Oct. 19, 2020, 5:20 AM), https://www.reuters.com/article/us-china-currency-digital-explainer/explainer-how-does-chinas-digital-yuan-work-idUSKBN27411T [https://perma.cc/EV8W-NPJD] ("China on Sunday concluded its largest pilot project to date for a central bank-backed digital yuan, with analysts saying the trial extended its lead in the global race to develop a central bank digital currency (CBDC).").

7 *See generally* Barry Eichengreen, Exorbitant Privilege: The Rise and Fall of the Dollar and the Future of the International Monetary System (2011) (explaining that the dollar is at risk of losing its status in the global economy); *see also* Mu Changchun, Dir., People's Bank of China, Fireside Keynote: A Conversation with Mu Changchun, Director-General, People's Bank of China at the Central Bank of the Future: Building a Financial System for a More Inclusive Economy Conference, at 3:37:05 (Nov. 17, 2020), https://www.youtube.com/watch?v=zgstsqa8vC0&feature=youtu.be [https://perma.cc/LR8S-L8L6] ("[D]igital fiat currency is born to be used for cross-border payments . . . .").

8 *See* Agustín Carstens, Gen. Manager, Bank for Int'l Settlements, Lecture at Princeton University: The Future of Money and the Payment System: What Role for Central Banks? (Dec.

stant payments, and full government backing no matter how large the account balance.[9] U.S. law restricts these accounts to an exclusive clientele consisting of banks and government entities.[10] Privileged access to these accounts creates a striking asymmetry at the core of our monetary framework: government-issued physical currency is an open-access resource, available to all, but government-issued digital currency (in the form of central bank accounts) is not.

This dichotomy is unwarranted. Congress should authorize the Fed to implement a broadly accessible, U.S. dollar-based CBDC by giving the general public—individuals, businesses, and institutions—the option to hold accounts at the central bank, which this Article calls FedAccounts.[11] FedAccounts would offer all the functionality of

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5, 2019) ("Your bank balance is a digital currency in the sense that it is an electronic entry in a ledger . . . .").

9 See *Maintenance of Reserve Balance Requirements*, BD. GOVERNORS FED. RSRV. SYS. (Nov. 21. 2019), https://www.federalreserve.gov/monetarypolicy/reserve-maintenance-manual-maintenance-of-reserve-balance-requirements.htm [https://perma.cc/GPS8-4EQA]; *What is the FedNow Service?*, FED. RSRV, https://www.frbservices.org/financial-services/fednow/what-is-fednow.html [https://perma.cc/92YW-UJTC]; Amy Wolf, *Why Federal Reserve Should Offer Bank Accounts to Everyone*, VAND. U. (June 20, 2018, 4:34 PM), https://news.vanderbilt.edu/2018/06/20/federal-reserve-bank-accounts/ [https://perma.cc/6DYK-RVW5]. Central bank accounts consist of base money, meaning they are fully sovereign and will not default no matter how large the balance. By contrast, federal deposit insurance for ordinary bank accounts maxes out at $250,000, *see* 12 U.S.C. § 1821(a)(1)(E), which presents a big problem for institutions with large balances.

10 In addition to U.S. depository institutions, *see* 12 U.S.C. § 342, the Fed is authorized to maintain accounts for the United States Treasury, *see id.* § 391, certain government-sponsored enterprises in the residential mortgage area, *see id.* §§ 1435, 1452(d), 1723a(g), foreign governments, banks, and central banks, *id.* §§ 347d, 358, certain international organizations, such as the International Monetary Fund and the World Bank, *see* 22 U.S.C. § 286d, and designated financial market utilities, *see* 12 U.S.C. § 5465, as well as assorted other governmental and government-sponsored entities that this Article omits here.

11 Since a draft of this Article was released in June 2018, the FedAccount proposal has received extensive attention in the media as well as from congressional leaders, several of whom have introduced legislation to implement the plan. *See* Matt Levine, Opinion, *Maybe Dollars Should Be Digital*, BLOOMBERG (June 11, 2018, 10:52 AM), https://www.bloomberg.com/opinion/articles/2018-06-11/maybe-dollars-should-be-digital [https://perma.cc/9E4M-6N6G] (discussing the authors' FedAccount proposal); Dave Dayen, *Give Everyone Government Bank Accounts*, NEW REPUBLIC (June 13, 2018), https://newrepublic.com/article/148998/give-everyone-government-bank-accounts [https://perma.cc/8B92-5D4D]; *Why Americans Should Have Bank Accounts at the Fed* (Bloomberg TV June 14, 2018, 5:45 PM) (television interview with Morgan Ricks, Professor of L. & Enter. Scholar, Vanderbilt Univ. L. Sch.), https://www.bloomberg.com/news/videos/2018-06-14/why-americans-should-have-bank-accounts-at-the-fed-video [https://perma.cc/4KCX-Q86H]; Matthew C. Klein, *Banking with the Federal Reserve*, BARRON'S (June 28, 2018, 11:09 AM), https://www.barrons.com/articles/banking-with-the-federal-reserve-1530198578 [https://perma.cc/A2XV-BPKC]; Jeff Spross, *How to Make the Federal Reserve the People's Bank*, THE WEEK (July 9, 2018), https://theweek.com/articles/783357/how-make-federal-reserve-peoples-bank [https://perma.cc/N3YW-9R5Z]; Stacey Vanek Smith & Cardiff Garcia,

ordinary bank accounts except for overdraft coverage. They would also have all the special features that banks currently enjoy in their central bank accounts, as well as some additional complementary features. The FedAccount program would put government-issued digital or "account" money on par with government-issued physical currency, transforming digital dollars into a resource that anyone can use.

The FedAccount system would be far superior to the CBDC approaches that dominate current discussions. Most proposals portray CBDC as a sort of disembodied physical currency—a digital "token"

Fed Accounts for All!, NPR PLANET MONEY: THE INDICATOR (July 11, 2018, 5:23 PM) (podcast interview with Morgan Ricks, Professor of L. & Enter. Scholar, Vanderbilt Univ. L. Sch.), https://www.npr.org/sections/money/2018/07/11/628173553/fed-accounts-for-all [https://perma.cc/X6SM-RLF4]; *Try This: What To Do If the Usual Weapons Fail*, ECONOMIST (Oct. 11, 2018), https://www.economist.com/special-report/2018/10/11/what-to-do-if-the-usual-weapons-fail [https://perma.cc/6CF6-6UQE]; Matthew Yglesias, *Bernie Sanders and AOC's Plan to Crack Down on High-Interest Loans, Explained*, VOX (May 16, 2019, 9:00 AM), https://www.vox.com/policy-and-politics/2019/5/16/18624041/credit-card-rate-payday-loan-stop-loan-sharks-sanders-ocasio-cortez [https://perma.cc/LLB5-TALW]; Dave Dayen, *Building the People's Banks*, AM. PROSPECT (Jan. 16 2020), https://prospect.org/economy/building-the-people%E2%80%99s-banks/ [https://perma.cc/MCV8-68AC]; Mike Orcutt, *We Just Glimpsed How a "Digital Dollar" Might Work*, MIT TECH. REV. (Mar. 26, 2020), https://www.technologyreview.com/2020/03/26/950277/we-just-glimpsed-how-a-digital-dollar-might-work-thanks-to-coronavirus/ [https://perma.cc/XH8L-HKHE]; Jason Brett, *How A U.S. Senator's Digital Dollar Plan Offers Mark Zuckerberg His Crypto Comeuppance*, FORBES (Mar. 27, 2020, 9:22 PM), https://www.forbes.com/sites/jasonbrett/2020/03/27/how-a-us-senators-digital-dollar-plan-offers-mark-zuckerberg-his-crypto-comeuppance/?sh=755262e5306d [https://perma.cc/9Z7V-2HGH] ("In [Senator Sherrod Brown's] plan, everyone would be allowed to set up a digital dollar wallet that would be called a 'FedAccount' . . . ."); Editorial, *Stop Dawdling. People Need Money.*, N.Y. TIMES (Apr. 15, 2020), https://www.nytimes.com/2020/04/15/opinion/coronavirus-stimulus-check-payment.html [https://perma.cc/EFZ7-8FPD] ("The government could improve [distribution of relief payments] significantly by establishing a bank account for every American at the Federal Reserve."); Emily Flitter & Emily Cochrane, *As Banks Stumble in Delivering Aid, Congress Weighs Other Options*, N.Y. TIMES (June 4, 2020), https://www.nytimes.com/2020/05/11/business/coronavirus-aid-banks.html [https://perma.cc/Y5ZV-QRLV] ("Some Democrats on the Senate Banking Committee want to see the Fed create accounts for every American."); Annie Linskey, *Biden's Flexibility on Policy Could Mean Fierce Fights If He Wins*, WASH. POST (Sept. 7, 2020, 6:00 AM), https://www.washingtonpost.com/politics/bidens-flexibility-on-policy-could-mean-bloody-fights-if-he-wins/2020/09/06/b8d66c3c-e622-11ea-bc79-834454439a44_story.html [https://perma.cc/YB83-9HKK] (noting that "[w]hen Joe Biden released economic recommendations two months ago," his team included the idea of "having the Federal Reserve guarantee all Americans a bank account"); Banking for All Act, S. 3571, 116th Cong. § 3 (2020) (as introduced by Sen. Sherrod Brown) (establishing "FedAccounts"); Financial Protections and Assistance for America's Consumers, States, Businesses, and Vulnerable Populations Act, H.R. 6321, 116th Cong. § 101 (2020) (as introduced by Rep. Maxine Waters) (establishing "FedAccounts"); Take Responsibility for Workers and Families Act, H.R. 6379, 116th Cong. § 101 (2020) (as originally drafted), https://www.sasse.senate.gov/public/_cache/files/1038e060-0bbf-4d5e-9bc8-980c6ba0b19c/pelosi-.pdf [https://perma.cc/2C33-PGCK] (establishing "FedAccounts"); Automatic Boost to Communities Act, H.R. 6553, 116th Cong. § 3 (introduced by Rep. Rashida Tlaib) (establishing "FedAccounts").

that retains physical currency's properties of anonymity and direct peer-to-peer transfer.[12] These proposals typically envision a closed system of digital "wallets" that is segregated from the existing system of money and payments and based on distributed ledger technology, like the blockchain technology that undergirds Bitcoin and (prospectively) Libra.[13] These design features are questionable. The Fed and other central banks should not be eager to facilitate fully anonymous transfers, which can be used for terrorist financing, money laundering, tax evasion, and other illicit activities.[14] Nor is it apparent why central banks should wish to create a segregated, closed system that is walled off from the mainstream payment system. When it comes to money and payments, integration and interoperability beat fragmentation and balkanization.[15] And distributed ledger technology, however ingenious its conception, remains extremely slow and inefficient compared with centralized ledger systems.[16] For central banks, these cryptocurrency design features are a needless distraction.[17] The FedAccount system would be seamlessly interoperable with the existing system of money and payments and would rely on low-cost, reliable systems and technologies that the Fed has used successfully for decades.[18]

The FedAccount program would also bring genuinely transformational change to the monetary-financial system, in ways both obvious and unexpected. Importantly, it would foster financial inclusion. The mainstream U.S. payment system currently fails millions of "unbanked" and "underbanked" households.[19] FedAccounts, properly

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12 *See* COMM. ON PAYMENTS & MKT. INFRASTRUCTURES, MKTS. COMM., BANK FOR INT'L SETTLEMENTS, CENTRAL BANK DIGITAL CURRENCIES 6 (2018).

13 *See, e.g.*, Tommaso Mancini-Griffoli, Maria Soledad Martinez Peria, Itai Agur, Anil Ari, John Kiff, Adina Popescu & Celine Rochon, *Casting Light on Central Bank Digital Currency*, at 6, 29, IMF Staff Discussion Note SDN/18/08 (2018) (describing a CBDC design involving "preloading tokens onto a wallet"); Benoit Cœuré, Member, Exec. Bd. of the Eur. Cent. Bank, The Future of Central Bank Money (May 14, 2018) ("[C]entral banks today could make use of new technologies that would enable the introduction of what is widely referred to as a 'token-based' currency—one based on a distributed ledger technology (DLT) or comparable cryptographic technology.").

14 Alma Angotti & Anne Marie Minogue, *Risks and Rewards: Blockchain, Cryptocurrency and Vulnerability to Money Laundering, Terrorist Financing and Tax Evasion*, WESTLAW J. BANK & LENDER LIAB., Nov. 26, 2018, at 3; *see also infra* Section IV.B.

15 *See infra* Sections II.B & III.B.

16 *Id.*

17 *Cf.* Aleksander Berentsen & Fabian Schär, *The Case for Central Bank Electronic Money and the Non-case for Central Bank Cryptocurrencies*, 100 FED. RSRV. BANK OF ST. LOUIS REV. 97, 103–04 (2018) (stating that central banks should not use cryptocurrencies because there is no advantage and anonymity creates significant risks).

18 *See, e.g.*, *infra* Part I, Section II.E.

19 *See infra* Section II.A.

structured, would be a money-and-payments safety net for such households, lessening their reliance on expensive and subpar alternatives.

FedAccounts would also hold appeal at the other end of the income and wealth spectrum. The interest rate paid on central bank accounts (known as the interest-on-reserves or IOR rate) would be attractive to large businesses and other institutions. Equally appealing to large institutions would be the sovereign and nondefaultable status of these balances. FedAccounts would be pure base money, an asset not realistically available elsewhere in "account" form. Further, free instant payments between FedAccount holders would create network effects: the system's value to existing users would rise as more users joined. For these reasons, the uptake would likely be robust.

If adopted on a large scale, FedAccounts would bring about less obvious, but no less profound, *systemic* changes. Financial stability would be dramatically enhanced: FedAccounts would likely crowd out privately issued deposit substitutes, which are a major source of financial instability. Monetary control and monetary policy transmission would improve; current problems with "pass through" of policy rates would diminish or disappear. Also, because the Fed would not charge interchange fees on debit card transactions, FedAccounts would reduce or eliminate an implicit tax on retailers and consumers. Moreover, the system could usher in desirable regulatory simplification. Far from being fiscally expensive, FedAccounts could *generate* revenue for the federal government—possibly a lot of it—all while imposing minimal or potentially zero user fees.[20]

This Article considers the effects the FedAccount program (or just "FedAccount") would have on the central bank, the banking system, and financial "intermediation" more generally, and finds the effects salutary. This Article also compares FedAccount to the CBDC plans currently under discussion and to other loosely related reform proposals: full-reserve banking and postal banking. FedAccount compares favorably. Finally, this Article anticipates objections on various grounds, including institutional competence; law enforcement and counterterrorism; cybersecurity and fraud prevention; privacy and civil liberties; the availability of supposedly better alternatives, such as regulatory mandates or Fintech payment solutions not involving direct government provisioning; possible effects on lending, small banks, and financial innovation; the loss of purported synergies between deposits

20 *See infra* Section II.G.

and lending; and possible political obstacles to adoption. This Article addresses these objections and explains why they do not undermine the case for FedAccount.

This Article's analysis relates to and builds upon others' work in money and banking. Mehrsa Baradaran's work on postal banking has influenced this Article considerably.[21] James Tobin's two-page "deposited currency" proposal from 1987 is a precursor to this Article's argument.[22] Former U.K. central banker Sir Paul Tucker has offered a more critical take on "[u]niversal access to accounts at the central bank."[23] His main objections relate to predicted effects on credit allocation and innovation,[24] issues that this Article addresses.[25] The idea of public access to central bank accounts has begun to percolate into public discourse.[26] Existing treatments are incomplete; this Article aims to concretize the proposal and trace its implications with greater precision.

At the level of theory, FedAccount reconceptualizes the roles of public and private actors in our monetary framework. This split has

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21 *See generally* MEHRSA BARADARAN, HOW THE OTHER HALF BANKS 9 (2015) (proposing "a central bank for the poor"); Mehrsa Baradaran, *Banking and the Social Contract*, 89 NOTRE DAME L. REV. 1283, 1330–36 (2014) (comparing problems with the current banking system to weak consumer protection and poor services for marginalized communities).

22 James Tobin, *The Case for Preserving Regulatory Distinctions*, *in* RESTRUCTURING THE FINANCIAL SYSTEM: A SYMPOSIUM SPONSORED BY THE FEDERAL RESERVE BANK OF KANSAS CITY, 167, 172 (Fed. Rsrv. Bank of Kan. City 1987) ("I think the government should make available to the public a medium with the convenience of deposits and the safety of currency, essentially currency on deposit, transferable in any amount by check or other order. . . . The Federal Reserve banks themselves could offer such deposits . . . ."). For more recent but similarly brief treatments, see Dirk Niepelt, *Reserves for Everyone—Towards a New Monetary Regime?*, VOX EU (Jan. 21, 2015), https://voxeu.org/article/keep-cash-let-public-hold-central-bank-reserves [https://perma.cc/3DRS-LF85] ("'Reserves for everyone' deserves serious consideration."); NICK GRUEN, CENTRAL BANKING FOR ALL: A MODEST PROPOSAL FOR RADICAL CHANGE 7 (2014) (advocating the extension of "some core central banking services to individuals and businesses"); and Berentsen & Schär, *supra* note 17, at 101 (advocating for electronic central bank accounts).

23 SIR PAUL TUCKER, THE POLITICAL ECONOMY OF CENTRAL BANKING IN THE DIGITAL AGE 9–10 (2017). For another skeptical take, see Cœuré, *supra* note 13 ("From today's perspective, there are no clear benefits from allowing the general public to hold digital central bank reserves . . . .").

24 TUCKER, *supra* note 23, at 9–10.

25 *See infra* Sections III.A, IV.G.

26 *See, e.g.*, *Central Banks Should Consider Offering Accounts to Everyone*, ECONOMIST (May 26, 2018), https://www.economist.com/finance-and-economics/2018/05/26/central-banks-should-consider-offering-accounts-to-everyone [https://perma.cc/LP8G-FYHK]. Some of the recent interest stems from a June 10, 2018, Swiss referendum to ban fractional-reserve banking, a very different proposal from the public option advanced in this Article. *See* Ralph Atkins, *Swiss Voters Reject 'Sovereign Money' Initiative*, FIN. TIMES (June 10, 2018), https://www.ft.com/content/686e0342-6c97-11e8-852d-d8b934ff5ffa [https://perma.cc/T4QD-G665].

always been *the* central issue of financial regulatory history and policy in the United States. And from the National Bank Act of 1864[27] to the Federal Reserve Act of 1913[28] and the Banking Acts of 1933[29] and 1935,[30] the trajectory has generally been to make the dollar money supply more and more public. This public conception reached its zenith with the New Deal system of bank regulation, the basic thrust of which was to bring private money creation within the public fold. Bank-issued money became a sovereign obligation through the mechanism of deposit insurance.[31] Banks—money augmentation firms—were required to inhabit a special institutional environment, segregated from the rest of the financial system.[32] Bank chartering was restrictive and discretionary.[33] And although one can quibble with the details, this system was on the whole very successful: it brought an unprecedented level of financial and macroeconomic stability.[34]

But the New Deal system began to erode in the 1970s, and the erosion accelerated in the 1990s and 2000s. Policymakers allowed a vast array of deposit substitutes—private moneys, denominated in dollars—to proliferate on a huge scale.[35] In other words, the dollar money supply became increasingly privatized. And with this privatization, instability returned, culminating in the disaster of 2008 and the Great Recession. FedAccount is therefore also an entry in a long-running debate. It aims to push money creation back in a more public direction. The importance of these issues for our economy and indeed for our democracy would be hard to overstate. Monetary dysfunction has played a persistent and crucial role in U.S. history, from colonial times through today,[36] and modern financial regulation has not solved the problem.

This Article proceeds in four parts. Part I describes the FedAccount proposal. Part II discusses its benefits. Part III explores the proposal's structural implications for banking and central banking,

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27 National Bank Act of 1864, ch. 106, 13 Stat. 99 (superseding the National Bank Act of 1863, ch. 58, 12 Stat. 665).

28 12 U.S.C. §§ 221–522.

29 Banking Act of 1933 (Glass-Steagall Act), Pub. L. No. 73–66, 48 Stat. 162.

30 Banking Act of 1935, Pub. L. No. 74–305, 49 Stat. 684.

31 § 8, 48 Stat. at 168.

32 *Id.* §§ 16, 21.

33 § 101, 49 Stat. at 687.

34 David M. Kennedy, *What the New Deal Did*, 124 POL. SCI. Q. 251, 255 (2009).

35 *See infra* Section II.C.

36 *See Money in Colonial Times*, FED. RSRV. BANK OF PHILA., https://www.philadelphiafed.org/education/teachers/resources/money-in-colonial-times [https://perma.cc/9WCU-X6LV] (describing the United States' early monetary problems).

examines the shortcomings of other CBDC designs, and compares FedAccount with narrow banking and postal banking proposals. Finally, Part IV addresses costs and objections.

I. FedAccounts

All U.S. citizens, residents, and domestically domiciled businesses and institutions would be eligible for FedAccounts.[37] Like the account balances that banks keep at the Fed, FedAccount balances would be CBDC: dollar balances issued by the central bank and maintained as digital ledger entries. FedAccounts would offer all the functionality of ordinary bank transaction accounts, except for overdraft coverage. They would come with debit cards for point-of-sale payments and ATM access. They would support direct deposit and online bill pay. Account holders could access their accounts on the internet or through a mobile phone application. Monthly statements would be supplied by email (preferably) or in hard copy. There would be a customer service number. Although checks are on their way to extinction,[38] the Fed might also offer checkbooks for a small fee.

There would be some key differences between FedAccounts and standard bank accounts:

1. *No fees or minimum balances.* FedAccount fees would be minimal or zero. There would be no minimum balances or other policies that exclude the currently unbanked. Applicants would not be screened based on credit scores or similar metrics. No one would be denied an account based on profitability considerations.
2. *Interest on balances.* FedAccounts would pay the same IOR rate that commercial banks receive on their balances. Since late 2008, when the Fed started paying IOR, this rate has been pegged at or just shy of the top end of the federal funds target range.[39] This Article discusses IOR in Section II.D.
3. *Real-time payments.* Payments *between* FedAccounts would clear in real time, just like interbank payments processed by the Fed.[40] A user-friendly web and

37 Like existing bank accounts, FedAccounts would comply with anti-money laundering and Bank Secrecy Act requirements. *See infra* Section IV.B.

38 David Marino-Nachison, *Payments: The Next Step Toward the Extinction of Checks and Cash*, Barron's (May 11, 2018, 10:25 AM), https://www.barrons.com/articles/payments-the-next-step-toward-the-extinction-of-checks-and-cash-1526048738 [https://perma.cc/PEC2-CB58].

39 Robert Heller, *Will Paying Interest on Reserves Endanger the Fed's Independence?*, 39 Cato J. 597, 597, 599 (2019).

40 *See What is the FedNow Service?*, *supra* note 9.

smartphone interface would support free and instant peer-to-peer payments between FedAccount holders. The system would work like existing popular peer-to-peer payment services (e.g., Venmo, Square Cash) except that users would never need to "cash out" their balances to a bank account:[41] FedAccount is a bank account.

4. *No interchange fees.* To the fullest extent possible, the central bank would decline to receive interchange fees in connection with debit card payments. This would reduce or eliminate an implicit tax on retailers and consumers. This Article discusses interchange in Section II.E.
5. *Pure money.* FedAccount balances would be fully sovereign base money, just like reserve balances that commercial banks hold. There would be no possibility of default on balances of any size. Deposit insurance would be superfluous.

FedAccount would not be a *lending* program. The Fed would not provide credit directly to individuals or businesses. If widely adopted, however, FedAccount would likely enlarge the Fed's balance sheet, raising questions about how the Fed allocates its investment portfolio. This Article delves into these structural issues in Part III. For now, it is enough to note that FedAccount would not involve the Fed in extending credit to individuals or nonbank businesses, nor would it necessarily affect the aggregate supply, or cost of credit or "intermediation."

Nor would FedAccount require the Fed to establish brick-and-mortar branches. It was not so long ago that practically all payments involved physical payment media—cash and checks—and ubiquitous retail bank locations were central to the payment system's functioning. Check clearing in particular was a huge logistical undertaking.[42] Restricting access to central bank accounts was perhaps understandable under these conditions.

Times have changed. Modern telecommunications and information technology—including the internet, mobile communication networks, payment card terminals, and smartphones—have made physical payment media decreasingly relevant to everyday transac-

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41 *See* Melanie Weir, *How to Cash Out on Cash App and Transfer Money to Your Bank Account Instantly*, BUS. INSIDER, (Dec. 31, 2019, 11:24 PM), https://www.businessinsider.com/how-to-cash-out-on-cash-app [https://perma.cc/7GRH-PANF].

42 *See, e.g.*, MARY BETH MATTHEWS & STEVE H. NICKLES, PAYMENTS LAW IN A NUTSHELL 142–44 (2d ed. 2015).

tions. Electronic payments now predominate.[43] Such payments consist of electronic ledger entries that do not require physical delivery of payment media at any level of the system. Checks are in severe decline. As recently as 2000, check payments outnumbered debit card, credit card, and Automated Clearing House ("ACH") payments combined.[44] Checks were still the predominant noncash payment method in 2007.[45] But by 2015, card-based and ACH payments dwarfed check payments by a factor of almost seven.[46] And checks can now be "deposited" by remote deposit capture, including by smartphone.

To be sure, physical payment media have not (yet) been entirely supplanted. Not everyone wants or is able to use remote deposit capture for checks, and cash remains important for many Americans.[47] However, the FedAccount system would have multiple possible ways of addressing this problem. First, the Fed could enlist the physical plant and personnel of the U.S. Postal Service. Fed ATMs installed at post office locations, and possibly also trained postal clerks, could handle cash deposits and withdrawals as well as check deposits (in lieu of image capture) for FedAccount holders. This would require significant investment, but handling and transporting cash and checks are squarely in the Fed's wheelhouse.[48] Second, the Fed could engage third-party banks, credit unions, or ATM networks as the Fed's agents to accept cash and check deposits from FedAccount holders. Third, the Fed could engage nonbank retail stores to serve this agency function for un- and underbanked populations. Retail stores already make

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43 *See* Geoffrey R. Gerdes, *Recent Payment Trends in the United States*, FED. RSRV. BULL., Oct. 2008, at A75, A75 (noting that "electronic payments . . . exceeded the number of check payments for the first time" in 2003).

44 *See* FED. RSRV SYS., FEDERAL RESERVE PAYMENTS STUDY 2016, at 4 (2016). Accompanying data tables are available on the Fed's website. *See The Federal Reserve Payments Study 2016 – Accessible Version*, BD. GOVERNORS FED. RSRV. SYS. (Feb. 28, 2017), https://www.federalreserve.gov/paymentsystems/2016-payment-study-accessible.htm#figure2 [https://perma.cc/M8PD-GELF]. ACH payments include direct deposits and recurring bill payments. Rebecca Lake, *ACH Transfers: What Are They and How do They Work?*, INVESTOPEDIA (Feb. 11, 2020), https://www.investopedia.com/ach-transfers-what-are-they-and-how-do-they-work-4590120#:~:text=feb%2011%2C%202020-,ACH%20transfers%20are%20a%20way%20to%20move%20money%20between%20accounts,receive%20money%20conveniently%20and%20securely.&text=ACH%20transfers%20have%20many%20uses,a%20credit%20or%20debit%20card [https://perma.cc/JX4Q-R667].

45 *See* FED. RSRV. SYS., *supra* note 44, at 4.

46 *See id.*

47 *See* KRISTA TEDDER & RACHEL HUBER, JAVELIN STRATEGY & RSCH., 2020 HEALTH OF CASH STUDY 4–5 (2020); CARDTRONICS, HEALTH OF CASH CHECK-UP 3 (2020).

48 *See FedCash Services*, FED. RSRV., https://www.frbservices.org/financial-services/cash/index.html [https://perma.cc/B5RZ-4VQU] (describing the Fed's "FedCash" services).

prepaid cards available for sale.[49] These three options are not mutually exclusive, and this list is not exhaustive.

Residual physical payment media are not a major obstacle to FedAccount. In fact, for reasons that will become clear in Part II, FedAccount would accelerate their decline. Although phasing out cash and checks is not necessarily an objective of FedAccount, the program would push in this direction.[50]

II. BENEFITS

It is remarkable how many seemingly disparate problems FedAccount would mitigate or outright solve. The benefits would span an astonishing range of areas and would include a much more inclusive financial system, better consumer protection, faster and more efficient payments, greater financial and macroeconomic stability, improved monetary policy transmission, reduced payment tolls (interchange fees), streamlined regulation and regulatory structures, and increased fiscal revenue arising from recapture of economic rents from the financial sector. This Part discusses each benefit in depth.

A. Financial Inclusion and Consumer Protection

Many Americans lack access to basic banking services. Whereas bank account penetration in other advanced economies like Canada, France, Germany, Japan, and the United Kingdom exceeds 97%,[51] about "6.5 percent of U.S. households [are] 'unbanked,' meaning that no one in the household had a [bank] account."[52] Another 18.7% of U.S. households are "underbanked," meaning that, despite having a bank account, they rely to some degree on expensive nonbank ser-

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49 *See* BD. OF GOVERNORS OF THE FED. RSRV., FED. DEPOSIT INS. CORP., NAT'L CREDIT UNION ADMIN., OFF. OF THE COMPTROLLER OF THE CURRENCY & FIN. CRIMES ENF'T NETWORK, INTERAGENCY GUIDANCE TO ISSUING BANKS ON APPLYING CUSTOMER IDENTIFICATION PROGRAM REQUIREMENTS TO HOLDERS OF PREPAID CARDS 2 (2016).

50 *See generally* KENNETH S. ROGOFF, THE CURSE OF CASH: HOW LARGE-DENOMINATION BILLS AID CRIME AND TAX EVASION AND CONSTRAIN MONETARY POLICY (2016) (advancing a case for phasing out cash).

51 Asli Demirguc-Kunt, Leora Klapper, Dorothe Singer & Peter Van Oudheusden, World Bank Grp., *The Global Findex Database 2014: Measuring Financial Inclusion around the World* 83–84 (World Bank Pol'y Rsch, Working Paper No. 7255, 2014).

52 *See* FED. DEPOSIT INS. CORP., FDIC NATIONAL SURVEY OF UNBANKED AND UNDERBANKED HOUSEHOLDS 1 (2017) ("Approximately 8.4 million U.S. households, made up of 14.1 million adults and 6.4 million children, were unbanked in 2017.").

vices—such as nonbank money orders, check cashing, and payday loans—for payments and other financial needs.[53]

Un- and underbanked individuals use a mishmash of products and services to make and receive payments. They cash checks at retail stores (such as grocery, drug, or convenience stores) and standalone check-cashing businesses. These providers typically charge 1.5% to 3.5% of face value.[54] They stand in line at bill pay centers to pay routine expenses in cash, and they use nonbank money orders, which are subject to fees.[55] They transfer money within the United States through expensive wire transfer outlets like Western Union or Moneygram.[56] And increasingly they turn to prepaid debit cards.[57] These cards have various types of fees, including upfront fees, monthly fees, transaction fees, cash reload fees, ATM fees, account statement fees, customer service call fees, and online bill pay fees.[58] In spite of all these fees, prepaid cards can experience service interruptions, leaving users unable to access funds for days at a time.[59]

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53 *See id.* ("Approximately 24.2 million U.S. households, composed of 48.9 million adults and 15.4 million children, were underbanked in 2017.").

54 *See* Michael S. Barr & Rebecca M. Blank, *Savings, Assets, Credit, and Banking Among Low-Income Households: Introduction and Overview*, *in* INSUFFICIENT FUNDS: SAVINGS, ASSETS, CREDIT AND BANKING AMONG LOW-INCOME HOUSEHOLDS 1, 3 (Rebecca M. Blank & Michael S. Barr eds., 2009). Underbanked households, which are predominately low- or moderate-income, FED. DEPOSIT INS. CORP., NATIONAL SURVEY OF UNBANKED AND UNDERBANKED HOUSEHOLDS 10 (2009), may resort to nonbank check cashing for reasons of convenience and immediacy of payment. *See* RACHEL SCHNEIDER & BALAFAMA LONGJOHN, CTR. FIN. SERVS. INNOVATION, BEYOND CHECK-CASHING: AN EXAMINATION OF CONSUMER DEMAND AND BUSINESS INNOVATION FOR IMMEDIATE ACCESS TO CHECK FUNDS 12 (2014).

55 *See* Christine Bradley, Susan Burhouse, Heather Gratton & Rae-Ann Miller, *Alternative Financial Services: A Primer*, 3 FDIC Q., no.1, 2009, at 39, 39–40.

56 *See* Carol M. Kopp, *MoneyGram vs. Western Union: What's the Difference?*, INVESTOPEDIA (Jan. 28, 2020), https://www.investopedia.com/articles/personal-finance/081715/sending-money-moneygram-vs-western-union.asp [https://perma.cc/MLP9-E7HW].

57 Bradley et al., *supra* note 55, at 42.

58 *See, e.g.*, *Plan Fees*, RUSHCARD, https://apply.rushcard.com/start?audience=Directmarketing#legal-fees [https://perma.cc/84H3-5SXG]; *see also* Prepaid Accounts Under the Electronic Fund Transfer Act (Regulation E) and the Truth in Lending Act (Regulation Z), 81 Fed. Reg. 83,934, 83,937, 83,954 (Nov. 22, 2016) (to be codified at 12 C.F.R. pts. 1005, 1026) (describing fees).

59 *See* Stacy Cowley, *Senators Press for Answers After Prepaid Debit Cards Fail*, N.Y. TIMES (June 28, 2016), https://www.nytimes.com/2016/06/29/business/dealbook/senators-press-for-answers-after-prepaid-debit-cards-fail.html [https://perma.cc/UGQ7-TVSH]; Liz Moyer & Jessica Silver-Greenberg, *RushCard Breakdown Affects Thousands of Prepaid Debit Card Users*, N.Y. TIMES (Oct. 20, 2015), https://www.nytimes.com/2015/10/21/business/dealbook/after-technical-snag-fury-and-no-cash.html [https://perma.cc/H6KD-34R8].

The unbanked also save at a much lower rate,[60] in part because they do not have checking and savings accounts.[61] Low savings increases the likelihood that these households will need to use expensive nonbank credit products, such as payday loans, to cover cash shortfalls and emergency expenses. Such products can trap households in cycles of debt.[62] Between interest and fees on short-term credit products and haircuts on earned income, the unbanked bear tens of billions of dollars in annual costs for financial services that wealthier households either get for free or do no need at all.[63]

Traditional private bank accounts are not currently meeting these households' needs. Bank branch locations are less prevalent in low-income communities and their hours of operation are inconvenient for many prospective users.[64] Minimum balance requirements, account fees, and delays in check clearing deter low- and moderate-income households from opening or retaining accounts.[65] Bank of America recently announced that it would begin imposing a twelve-dollar monthly maintenance fee on all accounts not meeting certain criteria, including minimum balance criteria.[66] Cultural and sociological factors also come into play. For example, the second most cited reason for lacking a bank account is "don't trust banks."[67]

Banks find it unprofitable to service low-balance accounts.[68] Moreover, when banks do maintain such accounts, they often use

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60 FED. DEPOSIT INS. CORP., *supra* note 52, at 8 (reporting that a rate of 17% of unbanked households saved compared with 56% of underbanked households and 62% of fully banked households).

61 *See* BARADARAN, *supra* note 21, at 213 (noting that countries where individuals have better access to bank accounts have substantially higher savings rates).

62 *See* JOHN ARMOUR, DAN AWREY, PAUL DAVIES, LUCA ENRIQUES, JEFFREY N. GORDON, COLIN MAYER & JENNIFER PAYNE, PRINCIPLES OF FINANCIAL REGULATION 263 (2016) (estimating that 75% of payday loans are advanced to "borrowers taking out upwards of eleven payday loans per year").

63 *See* BARADARAN, *supra* note 21, at 212 (noting that unbanked households spend $89 billion per year on fees for financial services).

64 Donald P. Morgan, *How Do Bank Branch Closures Affect Low-Income Communities?*, WORLD ECON. F. (Mar. 15, 2016), https://www.weforum.org/agenda/2016/03/how-do-bank-branch-closures-affect-low-income-communities [https://perma.cc/QJ88-BBDT].

65 Vassilisa Rubstova, *Banking and Poverty: Why the Poor Turn to Alternative Financial Services*, BERKELEY ECON. R. (Apr. 15, 2019), https://econreview.berkeley.edu/banking-and-poverty-why-the-poor-turn-to-alternative-financial-services/ [https://perma.cc/9VXS-JZFG].

66 Rachel Louise Ensign, *Bank of America: No More Free Checking for Customers with Low Balances*, WALL ST. J. (Jan. 22, 2018, 1:40 P.M.), https://www.wsj.com/articles/bankof america-no-more-free-checking-for-customers-with-low-balances-1516625715 [https://perma.cc/SQT2-9VBA].

67 *See* FED. DEPOSIT INS. CORP., *supra* note 52, at 23.

68 Aaron Klein, *America's Poor Subsidize Wealthier Consumers in a Vicious Income Ine-*

questionable tactics to generate revenue, such as overdraft "protection" fees averaging thirty-five dollars per overdraft.[69] These fees exploit behavioral biases (among other things, many people "who incur overdraft fees do not expect to overdraw their accounts") and fall disproportionately on low-balance households.[70] In 2013, one in ten Americans reported paying such fees.[71] Estimates of annual overdraft fees vary, ranging from $14 billion to as much as $32 billion.[72] Despite federal consumer protection regulation directed at overdraft abuses,[73] banks have been very successful at convincing vulnerable consumers to "opt in" to these fees by using aggressive and sometimes misleading marketing practices.[74] According to a recent survey, half of people who paid an overdraft fee in 2013 did not remember ever opting in.[75] And a history of overdrafts may preclude access to a bank account in the first place: banks use the private ChexSystems to screen out users who have had problems with checking accounts in the past.[76]

This Article does not fault for-profit institutions for pursuing profits (although abusively exploiting behavioral biases should be off-limits). But this Article does question whether this resource—the mainstream, account-based money-and-payments system—should be left to "market" provisioning in the first place. Money is often described as a public good,[77] and FedAccount would bring this concep-

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quality Cycle, Brookings Inst. (Feb. 6, 2018), https://www.brookings.edu/opinions/americas-poor-subsidize-wealthier-consumers-in-a-vicious-income-inequality-cycle/ [https://perma.cc/2LS5-CE43] ("It can cost banks between $250 and $400 to establish a new checking account and another several hundred dollars a year to maintain it.").

69 *See* Pew Charitable Trs., Overdrawn: Persistent Confusion and Concern About Bank Overdraft Practices 1 (2014).

70 *See* Lauren E. Willis, *When Nudges Fail: Slippery Defaults*, 80 U. Chi. L. Rev. 1155, 1177 (2013).

71 Pew Charitable Trs., *supra* note 69, at 1.

72 *See* Klein, *supra* note 68 (estimating $14 billion in overdraft fees per year); Lisa Servon, The Unbanking of America: How the New Middle Class Survives 31 (2017) (estimating $32 billion in overdraft fees in 2014); Theresa Schmall & Eva Wolkowitz, Ctr. Fin. Servs. Innovation, 2016 Financially Underserved Market Size Study 12 (2016) (estimating $24 billion in overdraft fees in 2015).

73 *See* 12 C.F.R. § 205.17 (2020).

74 *See* Willis, *supra* note 70, at 1181–99.

75 Pew Charitable Trs., *supra* note 69, at 5.

76 *See* James Marvin Pérez, *Blacklisted: The Unwarranted Divestment of Access to Bank Accounts*, 80 N.Y.U. L. Rev. 1586, 1587–88 (2005).

77 *E.g.*, Subcomm. on Econ. In Gov't of the J. Econ. Comm., 91st Cong., The Analysis and Evaluation of Public Expenditures: The PPB System 48 (Comm. Print 1969) ("The creation of money is in many respects an example of a public good."); Charles P. Kindleberger & Robert Z. Aliber, Manias, Panics and Crashes 19 (6th ed. 2011) ("Money is a public good . . . ."); David Laidler, Taking Money Seriously and Other Essays 47 (1990) ("[T]here is something of the nature of a public good about money . . . ."); James M.

tion to full realization by transforming the U.S. account-money system into public infrastructure akin to roads, sidewalks, public libraries, the judicial system, and law enforcement. These resources are usually funded in whole or in part out of general revenue, with low or no user fees. FedAccount would not have any fees or minimum balance requirements and would be marketed explicitly as a public service, open to all.

FedAccount would attract millions of people who currently choose not to or are unable to maintain bank accounts, dramatically reducing the number of un- and underbanked households.[78] These households would benefit enormously. Their payment-related costs would plummet, leaving them with more resources to meet other needs. FedAccount would not exploit behavioral biases. Overdrafts would be disallowed. (Those who truly value overdrafts could stick with existing bank accounts, though this Article argues that virtually all consumers would be better off using other credit products.) And consumers' need for alternative credit suppliers would decrease—both because their savings would likely increase and because they would be more likely to qualify for credit cards and other forms of bank credit, which are (at least somewhat) cheaper and safer.

But the benefits of inclusion would extend beyond these households themselves. People and businesses on the *other* side of payments are better off transacting with fully banked individuals. Employers benefit from using direct deposit instead of cutting physical checks. Many businesses benefit from customers' use of convenient and reliable automatic bill pay. Government agencies benefit from easier ad-

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Buchanan, *The Constitutionalization of Money*, 30 CATO J. 251, 251 (2010) ("The market will not work effectively with monetary anarchy."); Carstens, *supra* note 8, at 2 (describing the trust in the currency underpinned by the central bank as a public good "[l]ike the legal system"), John Cochrane, Remarks at the Federal Reserve Bank of Minneapolis: Ending Too Big to Fail Symposium 2:07:30–:40 (May 16, 2016), https://www.youtube.com/watch?v=QcidqjmxPyk [https://perma.cc/5DPX-2E9Q] ("There's a few things that government has a natural monopoly in . . . national defense, courts, property rights, and I think money is one of them."). Even Milton Friedman—a champion of laissez faire in other areas—called the provision of a stable monetary framework "an essential governmental function on a par with the provision of a stable legal framework." MILTON FRIEDMAN, A PROGRAM FOR MONETARY STABILITY 8 (1959). For a contrary, laissez-faire perspective, see LAWRENCE H. WHITE, THE THEORY OF MONETARY INSTITUTIONS 88–119 (1999).

78 One impediment to bank account access in the United States is the Treasury's strict customer identification requirements. *See* 31 C.F.R. § 1020.220(a) (2019). FedAccounts on their own would not directly aid people who do not have the official documents needed to verify their identity. To address this problem, the Fed should implement a tiered "know your customer" ("KYC") program allowing residents without the necessary government photo ID to open basic, small-dollar accounts, akin to the system in place for prepaid debit cards.

ministration of benefit transfers and tax refunds.[79] These network externalities from FedAccount would be large. Also, FedAccount would ease the oversight burden on state and federal consumer agencies and bank regulators because overdraft abuses and other bank-account-related consumer protection issues would decline, as would usage of substandard credit products. Finally, FedAccount would foster social cohesion and reduce marginalization. The value of this benefit is incalculable.

B. Payment Speed and Efficiency

FedAccount would greatly reduce payment system frictions. Although the Fed uses real-time gross settlement ("RTGS") for interbank transfers, retail payment networks in the United States are far slower.[80] Checks still take up to two days to clear.[81] Even wire transfers do not settle until the end of the day, and credit card payments may not settle for up to two days.[82] By comparison, Japan has had real-time payments since 1973 and many other countries, including South Africa, Singapore, India, and the United Kingdom, have transitioned to real-time retail payments in recent years.[83] Payment delays are costly for the economy as a whole and are especially so for households living paycheck to paycheck.[84]

In an effort to speed up U.S. retail payments, the Fed in 2015 convened the Faster Payments Task Force, a 300-plus member group consisting of financial institutions, consumer groups, and other interested parties, with the ambitious goal of achieving universal real-time

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79 For example, the United States Treasury makes over one billion payments per year valued at over $3 trillion. IPP, ELECTRONIC INVOICING: WHY IT MATTERS (2014) (highlighting remarks from John Hill, Ass't Comm'r for Payment Mgmt., U.S. Treasury Bureau of Fiscal Srvs., 2014 IPP Agency Forum (March 6, 2014)). Each payment once cost Treasury $1, but because of increasing electronification they now cost a fraction of that. *See id.*

80 FASTER PAYMENTS TASK FORCE, THE U.S. PATH TO FASTER PAYMENTS: FINAL REPORT PART ONE: THE FASTER PAYMENTS TASK FORCE APPROACH 52 (2017). RTGS systems permit banks to "instantaneous[ly] transfer . . . money and/or securities." Greg Daugherty, *Real-Time Gross Settlement (RTGS)*, INVESTOPEDIA (Apr. 27, 2020), https://www.investopedia.com/terms/r/rtgs.asp#:~:text=the%20term%20real%2Dtime%20gross,books%20of%20a%20central%20bank [https://perma.cc/4GF3-J4K2].

81 *See id*. at 54.

82 *See id.* at 52–53.

83 *See id.* at 30.

84 *See* FED. RSRV. SYS., STRATEGIES FOR IMPROVING THE U.S. PAYMENT SYSTEM 38–39 (2015); Aaron Klein, *How the Fed Can Help Families Living Paycheck to Paycheck*, BROOKINGS INST. (Nov. 22, 2017), https://www.brookings.edu/research/how-the-fed-can-help-families-living-paycheck-to-paycheck/ [https://perma.cc/5W5U-FGDP].

payments in the United States by 2020.[85] The Task Force issued a final report in 2017,[86] and then disbanded amidst a lack of consensus among its members. Although The Clearing House, a consortium of large banks,[87] launched a real-time payments service in 2017,[88] its reach has been modest so far; banks' incentives to improve settlement time are mixed because faster payments would cut into their fee revenue.[89] Additionally, small banks have been leery of tying themselves to a system run by the largest banks.[90] Promisingly, the Fed in 2019 proposed a new RTGS service called FedNow to facilitate real-time, around-the-clock retail payments through banks of any size.[91] But the service is not expected to be up and running until 2023 or 2024, prompting criticism that the service should be called not FedNow but "Fed Five Years From Now."[92] Moreover, large banks remain resistant despite small banks, retailers, and technology companies applauding the move.[93]

FedAccount payments would clear instantly for in-network users, solving at least part of the payments problem in one fell swoop. Any payment from one FedAccount to another would clear in real time, just like interbank payments have for decades.[94] For example, the U.S.

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85 *See* FASTER PAYMENTS TASK FORCE, https://fasterpaymentstaskforce.org/ [https://perma.cc/SYF4-R8YZ].

86 FASTER PAYMENTS TASK FORCE, *supra* note 80.

87 *Our History*, THE CLEARING HOUSE, https://www.theclearinghouse.org/about/history [https://perma.cc/YU2Z-5GG2].

88 *The RTP Network: For All Financial Institutions*, CLEARING HOUSE, https://www.theclearinghouse.org/payment-systems/rtp/institution [https://perma.cc/5Q6E-HH9T].

89 Klein, *supra* note 84.

90 *See* Kevin Wack & Hannah Lang, *Fed Plans to Launch Real-Time Payment Service by 2024*, AM. BANKER (Aug. 5, 2019, 1:31 PM), https://www.americanbanker.com/news/fed-plans-to-launch-real-time-payment-service-by-2024 [https://perma.cc/EU62-BLTJ] ("[M]any small banks and credit unions, wary that their interests will not be taken into account, have declined so far to sign up for the big-bank-owned system.").

91 *See* Lael Brainard, Member, Bd. of Governors of the Fed. Rsrv. Sys., Delivering Faster Payments for All, Remarks at the Federal Reserve Bank of Kansas City Town Hall (Aug. 5, 2019); *FedNow Service*, FED. RSRV., https://www.frbservices.org/financial-services/fednow/index.html [https://perma.cc/LLV9-767E].

92 Kevin Wack, *And Now, the Hard Part of the Fed's Path to Real-Time Payments*, AM. BANKER, (Aug. 5, 2019, 8:43 PM), https://www.americanbanker.com/news/and-now-the-hard-part-of-the-feds-path-to-real-time-payments [https://perma.cc/37RM-ZS5G].

93 *See* Victoria Guida, *Big Banks Prepare to Battle the Fed on Faster Payments*, POLITICO (July 19, 2019, 6:08 PM), https://www.politico.com/story/2019/07/19/big-banks-prepare-battle-fed-faster-payments-1605935 [https://perma.cc/X952-DTAG].

94 The Fed adopted RTGS in the early 1970s when Fedwire "migrated to a fully computerized platform." MORTEN L. BECH & BART HOBIJN, FED. RSRV. BANK OF N.Y., STAFF REP. 260, TECHNOLOGY DIFFUSION WITHIN CENTRAL BANKING: THE CASE OF REAL-TIME GROSS SETTLEMENT 4 (2006).

federal government, which already has an account at the Fed,[95] could make payments—including government salaries and social security checks—by instantly crediting millions of FedAccounts rather than channeling payments through multiple institutions each month.[96] Real-time in-network payments would be a major inducement for individuals and businesses to join FedAccount.

There are thousands of banks, credit unions, and money services businesses in the United States.[97] This degree of payment system fragmentation—involving thousands of separate ledgers stitched together through various correspondent and clearing arrangements—creates inefficiencies. Network-type resources work better when they are highly integrated; fragmentation raises frictions and limits economies of scale. By bringing more transactions directly onto the Fed's central ledger, FedAccount would reduce transaction costs and generate positive spillovers throughout the economy.

C. Financial and Macroeconomic Stability

FedAccount would bolster financial and macroeconomic stability—perhaps dramatically. It is no exaggeration to say that FedAccount could rival the 1933 advent of federal deposit insurance as a stabilizing force. By making pure sovereign money widely available in "account" form, FedAccount would crowd out runnable cash equivalents, all but eliminating a primary cause of macroeconomic disasters.

History has shown repeatedly that runnable cash equivalents—basically, the financial sector's short-term and demandable debt—present a grave threat to the broader economy. Widespread runs on cash equivalents, or "panics," invariably cause or amplify deep recessions. They do massive damage to the real economy. Every major panic (or cluster of panics) in the United States since the Civil War—1873, 1893, 1907, 1930–1933, and 2007–2008—has been accompanied by a severe

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95 *About Federal Reserve Bank Services*, FED. RSRV., https://frbservices.org/about/index.html [https://perma.cc/D3VM-A56D].

96 FedAccount would have significantly reduced the costs and delays involved in providing stimulus in response to the COVID-19 crisis. *See* Morgan Ricks & Lev Menand, Opinion, *Let's Pay the Stimulus in Digital Dollars*, BLOOMBERG — QUINT (Mar. 24, 2020, 10:01 PM), https://www.bloombergquint.com/gadfly/coronavirus-stimulus-let-s-pay-it-in-digital-dollars [https://perma.cc/8ABV-TW3B].

97 *See Excerpt from Banks and Credit Unions Industry Profile*, DUN & BRADSTREET FIRST RSCH. (Sept. 14, 2020). http://www.firstresearch.com/Industry-Research/Banks-and-Credit-Unions.html#:~:text=the%20US%20banking%20industry%20includes,and%20credit%20unions%20%241.45%20trillion. [https://perma.cc/6SMX-W5BS].

recession, and most of the worst recessions have been accompanied by panics.[98] "[B]anking panics," wrote Milton Friedman and Anna Schwartz in their seminal study of U.S. monetary history, "have occurred only during severe contractions and have greatly intensified such contractions, if indeed they have not been the primary factor converting what would otherwise have been mild contractions into severe ones."[99]

This problem is not unique to the United States. Walter Bagehot's canonical nineteenth-century writings on central banking stemmed from his recognition that panics in the money market endangered England's economy.[100] In modern times, the onset of Sweden's sharp, deep recession in the early 1990s coincided with a massive run on its financial sector's krona-denominated short-term debt obligations.[101] Similarly, Japan's acute recession beginning in late 1997 coincided with a sudden run on the yen-denominated short-term debt of its financial institutions.[102] Panics are, and always have been, far and away the biggest danger the financial system poses to the broader economy.[103]

Although deposit insurance basically ended runs on deposits,[104] modern panics have involved runs on institutional deposit substitutes. The 2008 financial crisis featured a run on dollar-denominated cash equivalents such as asset-backed and financial commercial paper, repo, Eurodollars, auction-rate securities, prime brokerage free credit balances, and money market mutual fund shares.[105] The Swedish and Japanese episodes just mentioned were similar. It is important to un-

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98 For information on major U.S. panics and output contractions before World War I, see Andrew J. Jalil, *A New History of Banking Panics in the United States, 1825–1929: Construction and Implications*, AM. ECON. J.: MACROECONOMICS, July 2015, at 295, 323, 328.

99 MILTON FRIEDMAN & ANNA JACOBSON SCHWARTZ, A MONETARY HISTORY OF THE UNITED STATES, 1867–1960, at 441–42 (1963).

100 *See* WALTER BAGEHOT, LOMBARD STREET: A DESCRIPTION OF THE MONEY MARKET 17 (3d. ed. 1873) (noting that in the event of a major panic "our banking system and our industrial system too would be in great danger").

101 *See* Peter Englund & Vesa Vihriälä, *Financial Crisis in Finland and Sweden: Similar But Not Quite the Same*, *in* THE GREAT FINANCIAL CRISIS IN FINLAND AND SWEDEN 71, 90 (Lars Jonung et al. eds., 2009).

102 *See* Karube Kensuke, *Lessons of the 1997 Financial Crisis in Japan*, NIPPON (Oct. 30, 2017), https://www.nippon.com/en/currents/d00360/ [https://perma.cc/F7Y3-YXYW].

103 For an extensive treatment of this point, see MORGAN RICKS, THE MONEY PROBLEM: RETHINKING FINANCIAL REGULATION 102–42 (2016).

104 *See* GARY GORTON, SLAPPED BY THE INVISIBLE HAND: THE PANIC OF 2007, at 13–14 (2010) (describing how the enactment of deposit insurance led to a seventy-five-year panic-free "Quiet Period" in U.S. financial history).

105 *See* RICKS, *supra* note 103, at 96–97.

derstand that, like deposits and redeemable bank notes, these other types of financial sector short-term debt are privately issued "money": they satisfy money demand. Accounting standards classify them as cash equivalents,[106] and central banks often include some of them in their broad measures of the money supply.[107] Leading economists refer to these short-term debt instruments as "forms of money" or "private money."[108] A Fed governor recently acknowledged that their "private creation . . . is, at least to some degree, the creation of money."[109]

FedAccount would offer directly to businesses and other institutions what they are really looking for when they pile into cash equivalents: riskless money with a positive yield. Many large businesses hold tens of billions of dollars in privately issued cash equivalents.[110] No business would hold a bank account of this size, given the risk of bank failure and default. Because FedAccounts would consist of fiat base money, they would not be susceptible to default any more than a dollar bill can default.[111] FedAccount would offer a compelling alternative to private cash equivalents: pure sovereign money paying the IOR rate, an asset currently available only to banks.[112] FedAccount would thus crowd out—and forestall the

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106 *See* FIN. ACCT. STANDARDS BD., STATEMENT OF FINANCIAL ACCOUNTING STANDARDS NO. 95: STATEMENT OF CASH FLOWS 6 (1987).

107 *See What Is the Money Supply? Is It Important?*, BD. GOVERNORS FED. RSRV., https://www.federalreserve.gov/faqs/money_12845.htm#:~:text=there%20are%20several%20standard%20measures,accounts%20at%20the%20Federal%20Reserve [https://perma.cc/649V-PH67].

108 *E.g.*, GARY B. GORTON, MISUNDERSTANDING FINANCIAL CRISES 5 (2012) (calling them "forms of money"); Jeremy C. Stein, *Monetary Policy as Financial Stability Regulation*, 127 Q.J. ECON. 57, 57–58 (2012) (calling them "private 'money'"); John H. Cochrane, *Toward a Run-Free Financial System*, *in* ACROSS THE GREAT DIVIDE: NEW PERSPECTIVES ON THE FINANCIAL CRISIS 197, 224 (Martin Neil Baily & John B. Taylor eds., 2014) ("Short-term debt *is* money.").

109 Daniel K. Tarullo, Member, Bd. of Governors of the Fed. Rsrv. Sys., Opening Remarks at Center for American Progress and Americans for Financial Reform Conference: Exploring Shadow Banking: Can the Nation Avoid the Next Crisis? 6 (July 12, 2016).

110 *Where Companies Keep Their Cash*, MARKETPLACE (Oct. 6, 2011), https://www.marketplace.org/2011/10/06/where-companies-keep-their-cash/ [https://perma.cc/9JJ5-GCH6].

111 *Compare* 12 U.S.C. § 411 (requiring Fed notes to "be redeemed in lawful money on demand"), *with* 31 U.S.C. § 5103 (stating that Fed notes are legal tender). Here, this Article echoes Joseph H. Sommer, *Where Is a Bank Account?*, 57 MD. L. REV. 1, 13 n.30 (1998).

112 *See infra* Section II.D. Some may be concerned that FedAccount would increase instability in times of financial stress as holders of deposits and private cash equivalents flocked to FedAccounts. These concerns are misplaced. FedAccount would substantially reduce the size of cash equivalent markets, reducing the scale of the problem, to begin with. Also, insured U.S. retail deposits are very sticky and have proved not to be run-prone; there is no reason why FedAccount would materially change this. As for wholesale money-claimants, they *already* run—mostly to J.P. Morgan and to Treasury bills and government-only money market mutual

reemergence of—runnable cash equivalents.[113] By expanding its balance sheet postcrisis, the Fed has significantly reduced the size of the private cash equivalent markets.[114] FedAccount would supercharge this crowding out and make it permanent.[115]

D. Monetary Policy Transmission

If broadly adopted, FedAccount would improve both the efficacy and the distributional fairness of monetary policy. To see why requires a bit of background.

In late 2008, the Fed started paying interest to banks on their central bank accounts for the first time.[116] This was a revolutionary shift in the Fed's operational approach to monetary policy. Before then, U.S. central bank accounts paid no interest, and the Fed influenced market interest rates by keeping bank reserves scarce and adjusting their supply.[117] But today, when the Fed wants to raise the federal funds rate (its main target rate for monetary policy) and other market interest rates, it pays more interest to banks on their accounts[118] These interest payments are called interest on reserves or IOR.[119] The theory is that IOR will "pass through" to market interest

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funds. It is far from obvious why running to FedAccounts would be worse. It would be better because it would improve the Fed's visibility into crises. Finally, the notion that we should not expand access to sovereign "account money" because it might destabilize private money is, if anything, an indictment of private money.

113 *Cf.* Robin Greenwood, Samuel G. Hanson & Jeremy C. Stein, *The Federal Reserve's Balance Sheet as a Financial-Stability Tool*, FED. RSRV. BD. KAN. CITY ECON. POL'Y. SYMP., Aug. 2016, at 335, 335 (proposing that the Fed use its balance sheet to weaken incentives for financial institutions to issue runnable "short-term liabilities").

114 *See* Sarah Foster, *What is the Federal Reserve's Balance Sheet?*, BANKRATE (July 8, 2020), https://www.bankrate.com/banking/federal-reserve/federal-reserve-balance-sheet/ [https://perma.cc/XL6D-AZQ5] (stating that the Fed expanded its balance sheet in 2008 by buying "debt and mortgage-backed securities").

115 Professor Ricks has argued that restricting entry into (dollar-denominated) "money" creation on a functional basis would be both feasible and desirable. *See* RICKS, *supra* note 103, at 230–37; Morgan Ricks, *Entry Restriction, Shadow Banking, and the Structure of Monetary Institutions*, 2 J. FIN. REG. 291, 294 (2016). Entry restriction could complement the crowding-out approach if the latter proved less than fully successful.

116 In 2006, Congress authorized the Fed to begin paying interest on reserves beginning October 1, 2011. *See* Financial Services Regulatory Relief Act of 2006, Pub. L. No. 109-351, §§ 201, 203, 120 Stat. 1966, 1968–69. The Emergency Economic Stabilization Act of 2008 accelerated the effective date to October 1, 2008. *See* Pub. L. No. 110-343, § 128, 122 Stat. 3765, 3796.

117 *See* JOHN R. WALTER & RENEE COURTOIS, FED. RSRV. BANK OF RICHMOND, THE EFFECT OF INTEREST ON RESERVES ON MONETARY POLICY 1–2 (2009), https://www.richmondfed.org/-/media/richmondfedorg/publications/research/economic_brief/2009/pdf/eb_09-12.pdf [https://perma.cc/9U5A-F25Y].

118 *See id.* at 1, 3.

119 *See id.* at 1.

rates, allowing the Fed to control inflation and influence macroeconomic conditions.[120]

Problematically, pass-through has been lackluster: for the great majority of the IOR era that began in late 2008, the federal funds rate has remained below the IOR rate,[121] and other money market rates have stayed even lower.[122] Weak pass-through raises two big problems. First, it hamstrings monetary policy. The Fed's monetary policy will not affect the economy as desired if market interest rates do not cooperate. Second, poor pass-through means banks are getting a windfall at the public's expense. Entities receiving IOR but not passing it through are extracting economic rents.[123] The Fed has sought to address the first problem (efficacy) by paying interest to a broader set of financial institutions.[124] But there are reasons to think this only makes the second problem (distribution) worse.[125]

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120 *See id.* at 4.

121 *Id.* at 2.

122 *See* Josh Frost, Lorie Logan, Antoine Martin, Patrick McCabe, Fabio Natalucci, & Julie Remache, *Overnight RRP Operations as a Monetary Policy Tool: Some Design Considerations* 1 (Fin. & Econ. Discussion Series No. 2015-010, 2015), https://www.federalreserve.gov/econresdata/feds/2015/files/2015010pap.pdf [https://perma.cc/6VUQ-K35J].

123 *See Is the Federal Reserve Giving Banks a $12bn Subsidy?*, Economist (Mar. 18, 2017), https://www.economist.com/finance-and-economics/2017/03/18/is-the-federal-reserve-giving-banks-a-12bn-subsidy [https://perma.cc/4SMJ-JSR2]; Ann Saphir, *Yellen Draws Fire for Fed Policy to Pay Banks*, Reuters (Feb. 10, 2016, 3:01 PM), https://www.reuters.com/article/usa-fed-yellen-politics/yellen-draws-fire-for-fed-policy-to-pay-banks-idUSL2N15P1Z7 [https://perma.cc/C8ZU-FENB]. The dollar amounts will become much larger if rates rise. *See* Erin E. Syron Ferris, Soo Jeong Kim & Bernd Schlusche, *Confidence Interval Projections of the Federal Reserve Balance Sheet and Income*, Bd. Governors Fed. Rsrv. Sys. (Apr. 5, 2017), https://www.federalreserve.gov/econresdata/notes/feds-notes/2017/confidence-interval-projections-of-the-federal-reserve-balance-sheet-and-income-20170113.html [https://perma.cc/YMH4-Q9TY]. In 2016 certain financial market utilities were permitted to open Fed accounts, which they seem to like. *See* Katy Burne, *Clearinghouses Park Billions in New Fed Accounts*, Wall St. J. (Nov. 23, 2016), https://www.wsj.com/articles/clearinghouses-park-billions-in-new-fed-accounts-1479897004 [https://perma.cc/V8E7-RYFH] ("Financial firms are lining up for the hottest new account on Wall Street: checking with interest at the Federal Reserve.").

124 *See Overnight Reverse Repurchase Agreement Facility*, Bd. Governors Fed. Rsrv. Sys. (Jan. 3, 2018), https://www.federalreserve.gov/monetarypolicy/overnight-reverse-repurchase-agreements.htm [https://perma.cc/9RGK-TNQ6]; Frost et al., *supra* note 122, at chart 3.

125 *See* Darrell Duffie & Arvind Krishnamurthy, *Pass-Through Efficiency in the Fed's New Monetary Policy Setting*, Fed. Rsrv. Bank Kan. City Pol'y Symp., Aug. 2016, at 21, 22 (developing a model in which an increase in average pass-through to all money markets is achieved with a reduction in pass-through to the average rate paid on bank deposits). *But see* Simon Potter, Exec. Vice President, Fed. Rsrv. Bank of N.Y., Money Markets at a Crossroads: Policy Implementation at a Time of Structural Change, Remarks at the Master of Applied Economics' Distinguished Speaker Series 7 (Apr. 5, 2017) (arguing that rate dispersion may be tied to idiosyncratic, one-off factors).

Broad adoption of FedAccounts would ameliorate or eliminate these problems. Pass-through problems exist only because central bank accounts are restricted to an exclusive clientele through which the central bank seeks to "pass" interest. With FedAccount, the Fed would pay the IOR rate directly to individuals and nonbank businesses and institutions, rendering pass-through moot. The result would be a more effective and equitable approach to monetary policy implementation.[126]

E. Eliminating Tolls (Interchange)

FedAccount would not charge any tolls on payments. This issue is most salient today with debit card transactions. Debit cards are the predominant noncash payment method in the United States as measured by number of transactions.[127] Most debit cards support both "signature-based" and "PIN-based" transactions, which use different authorization, clearing, and settlement protocols. The vast majority of signature-based transactions are routed through Visa or MasterCard.[128] Another dozen or so networks handle PIN-based transactions.[129]

Were the Fed to manage its debit card operations like any other bank, it would join one or more signature-based and PIN-based networks and enable those networks on its cards. FedAccount-linked debit cards (call them FedCards) would then work at point-of-sale terminals and ATM machines in the United States and abroad. Card-issuing banks that join these networks receive fees—"interchange fees"—when their cards are used in transactions. Interchange fees are set by the networks and charged to merchants when cardholders transact with them.[130] These fees are a substantial source of revenue

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126 *See* Berentsen & Schär, *supra* note 17, at 102 (arguing that "central bank electronic money for all" would avoid political economy issues that arise from paying IOR only to select financial institutions).

127 *See* FED. RSRV. SYS., *supra* note 44, at 4.

128 *See* Yizhu Wang & Christopher Kane, *PIN-Based Debit Processing Market Could Benefit from Consolidation, Industry Experts Say*, NILSON REP. (Apr. 30, 2019), https://nilsonreport.com/featured-articles/pin-based-debit-processing-market-could-benefit-from-consolidation-industry-experts-say/ [https://perma.cc/SD3N-86XB].

129 *See id.* MasterCard and Visa also maintain PIN networks, called Maestro and Interlink, respectively. *See id.* PIN-based networks are sometimes called Electronic Funds Transfer or EFT networks. *See* FUMIKO HAYASHI, RICHARD SULLIVAN & STUART E. WEINER, A GUIDE TO THE ATM AND DEBIT CARD INDUSTRY 6–7 (2003).

130 While the fees are technically charged to the merchant's bank (the "merchant acquirer"), they are passed on to merchants through a merchant discount. *Id.* at 5–6, 9.

for debit card issuers,[131] notwithstanding federal regulation of interchange rates.[132] Card networks also charge per-transaction "network fees," which are smaller than interchange fees but still substantial.[133]

For its first sixty years, the Fed fought doggedly, and ultimately successfully, to end "nonpar banking," whereby some banks would charge fees to pay checks drawn upon them.[134] Merchants generally paid these fees to their customers' banks.[135] Congressman Carter Glass called the fees "tollgates upon the highways of commerce."[136] Debit card interchange fees are nonpar banking resurrected. Payment tolls are an impediment to commerce, a spillover-rich activity. And resource overuse is simply not a concern here. The electronic payment system is not realistically depletable or congestible. Ideally, the Fed would not accept any interchange fees at all from FedCard transactions.

The best way to avoid interchange and network fees would be to bypass the existing card networks.[137] Fortunately, the Fed is well positioned to do just this. The Fed already processes payments by its account holders through Fedwire, its venerable real-time payments network.[138] Once central bank accounts are made available to the gen-

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131 BENJAMIN KAY, MARK D. MANUSZAK & CINDY M. VOJTECH, BD. OF GOVERNORS OF THE FED. RSRV. SYS., BANK PROFITABILITY AND DEBIT CARD INTERCHANGE REGULATION: BANK RESPONSES TO THE DURBIN AMENDMENT 3 (2014) ("In 2010, interchange income was about 5 percent of total noninterest income for banks in our data.").

132 *See* 15 U.S.C. § 1693o-2(a)(2) (requiring that interchange transaction fees be "reasonable and proportional to the cost incurred by the issuer with respect to the transaction"); 12 C.F.R. § 235.3 (2020) (defining reasonable and proportional interchange fees as no more than twenty-one cents plus the product of five basis points and the value of the transaction).

133 *See generally* WELLS FARGO MERCH. SERVS., PIN DEBIT NETWORKS FEE SCHEDULE: MARCH – MAY 2020 (2020) (describing networks' interchange, switch, and annual network fees).

134 For a capsule history, see *Developing an Efficient Payments System*, FED. RSRV. BANK MINNEAPOLIS (Aug. 1, 1988), https://www.minneapolisfed.org/article/1988/developing-an-efficient-payments-system [https://perma.cc/JM9D-RACD]; Hal S. Scott, *The Risk Fixers*, 91 HARV. L. REV. 737, 753–54, 758 n.75 (1978); and FED. RSRV. SYS., THE FEDERAL RESERVE SYSTEM: PURPOSES AND FUNCTIONS 124–25 (10th ed. 2016).

135 *See* Scott, *supra* note 134, at 754.

136 53 CONG. REC. 14,089 (1916) (statement of Hon. Carter Glass before the American Bankers' Association at Richmond, Virginia).

137 *Cf.* Adam J. Levitin, *Public-Private Competition in Payments: The Role of the Federal Reserve* 14 (Geo. Univ. L. Ctr., Business, Economics and Regulatory Policy Working Paper No. 1420061, 2009) (arguing "that 'the [Fed] could enhance competition in payment card markets by'" establishing its own "FedNet" payment card network (quoting Thomas M. Hoenig, President, Fed. Rsrv. Bank of Kan. City, Future of Retail Banking and Payments, Developments in Global Markets: The Role of Central Banks (May 25, 2009))).

138 Fedwire's lineage dates to 1918 when the Fed established telegraphic systems to administer payments. *See* Adam M. Gilbert, Dara Hunt & Kenneth C. Winch, *Creating an Integrated*

eral public, Fedwire should be able to handle the associated payments, including those initiated by FedCards. Fedwire currently processes payments to the tune of $3 trillion *per day*.[139] Fedwire participants send electronic messages to the Fed instructing it to debit their Fed accounts and credit payees' accounts.[140] This, of course, is just what card networks do. Opening Fedwire to FedCard-based payments would not require any new, distributed physical infrastructure. Existing point-of-sale terminals are quite versatile and can route payments to numerous networks.[141] Existing telecommunications rails handle all electronic payment messages, including card-based transactions and Fedwire transactions. Fedwire would just need to be configured to accommodate payment card messaging protocols.

By not charging interchange or network fees for FedCard transactions processed over Fedwire, the Fed would give merchants a strong incentive to route FedCard payments through the Fedwire network, whether or not they used FedAccounts themselves. Federal regulation already prohibits card networks from inhibiting merchants' ability to route debit card transactions to any network that may process them.[142] So merchants would pay no interchange or network fees when accepting payment via FedCard, provided they routed such payments to Fedwire.[143] Reducing aggregate interchange fees would be a boon to merchants. Ultimately, the benefits would be passed along to consumers in the form of lower prices for goods and services.

Non–card-based payments would not be subject to fees either; they too would be processed through Fedwire. Peer-to-peer payments between FedAccounts would be processed for free, as would wire transfers and bill payments from FedAccounts. Existing Fedwire fees would be eliminated, returning the Fed to its old system of free interbank transfers.[144] By removing all per-transaction fixed and ad

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Payment System: The Evolution of Fedwire, FED. RSRV. BANK N.Y. ECON. POL'Y REV., July 1997, at 1, 1–2.

139 *Fedwire Funds Service—Monthly Statistics*, FED. RSRV. BANK SERVS., https://frbservices.org/resources/financial-services/wires/volume-value-stats/monthly-stats.html [https://perma.cc/9YQX-PZ3F].

140 *See* Gilbert et al., *supra* note 138, at 2.

141 *See* FIRST DATA, PAYMENTS 101: CREDIT AND DEBIT CARD PAYMENTS: KEY CONCEPTS AND INDUSTRY ISSUES 6–8 (2010).

142 *See* 12 C.F.R. § 235.7(b) (2020).

143 So long as FedCards were also enabled on other signature- and PIN-based networks, FedCard payments could be routed to those networks as well, but in that case, the merchant would pointlessly pay interchange and network fees.

144 The Fed generally did not charge banks for Fedwire and other payment system services until Congress required it to do so in 1980. *See* Depository Institutions Deregulation and Mone-

valorem fees from payments, FedAccount would create a frictionless system, like email. The system as a whole would be financed out of seigniorage revenue, as described in Section II.G.

F. Regulatory Streamlining

FedAccount would create opportunities to rationalize and simplify the existing U.S. financial regulatory regime. For example, many rules that have been promulgated since the financial crisis are directly or indirectly geared toward limiting financial institutions' fragile short-term debt funding.[145] By crowding out this fragile funding model, FedAccount would reduce or eliminate the need for these complicated regulations. Rules have also been developed to impose enhanced prudential standards on firms that the market might perceive as "too big to fail."[146] One side effect of FedAccount would likely be to reduce the size of the largest U.S. financial institutions. To the extent that these firms, due to their size and wide range of activities, are harder to supervise[147] or enjoy subsidies because of a market perception that they are too big to fail,[148] FedAccount would bring them more in line with other large regional banks and reduce their systemic importance. Additionally, some rules promulgated to protect consumers from abusive products could potentially be pared back as more consumers and institutions transitioned to FedAccounts. These changes would reduce the burden on financial regulatory agencies.

G. Fiscal Revenue (Seigniorage)

Rather than weigh on the government's fiscal position, FedAccount will probably generate revenue. Central banks' asset portfolio

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tary Control Act of 1980, Pub. L. No. 96-221, § 107, 94 Stat. 132, 140–41 (codified at 12 U.S.C. § 248a). *See generally* Anatoli Kuprianov, *The Monetary Control Act and the Role of the Federal Reserve in the Interbank Clearing Market*, FED. RSRV. BANK RICHMOND ECON. REV. July/Aug. 1985, at 23 (recounting the history of this legislation).

145 *See* 12 U.S.C. § 5321 (establishing the Financial Stability Oversight Council ("FSOC")); *id.* § 5322(a)(2)(H) (empowering the FSOC to designate nonbanks for heightened supervision); Net Stable Funding Ratio: Liquidity Risk Measurement Standards and Disclosure Requirements, 81 Fed. Reg. 35,124 (proposed June 1, 2016) (codified at 12 C.F.R. pt. 249).

146 *See, e.g.*, 12 U.S.C. § 5365 (providing for enhanced supervision and prudential standards for certain bank holding companies).

147 *See* Lev Menand, *Too Big to Supervise: The Rise of Financial Conglomerates and the Decline of Discretionary Oversight in Banking*, 103 CORNELL L. REV. 1527, 1528 (2018).

148 *See, e.g.*, FIN. STABILITY OVERSIGHT COUNCIL, 2011 ANNUAL REPORT 1009 (2011), https://www.treasury.gov/initiatives/fsoc/Documents/FSOCAR2011.pdf [https://perma.cc/6C24-XAZ7]. *See generally* Gara Afonso, João A.C. Santos & James Traina, *Do "Too-Big-To-Fail" Banks Take On More Risk?*, J. FIN. PERSP., July 2015, at 1 (measuring government support for large banks and evaluating consequences).

returns typically exceed their interest payments and other expenses by a wide margin. These earnings are called "seigniorage," meaning fiscal revenue from money creation. The amounts are large. The Fed remitted $81 billion, $65 billion, and $55 billion in earnings to the United States Treasury Department in 2017, 2018, and 2019, respectively.[149] If FedAccount expanded the Fed's balance sheet,[150] remittances could increase substantially, even after accounting for the costs of maintaining millions of retail accounts.[151] Incremental portfolio earnings would likely exceed FedAccount expenses, especially if FedAccounts attracts large businesses and institutions as expected.

Not only would this additional fiscal revenue not be economically distortive, it would actually *remove* existing distortions. The financial sector's short-term and demandable debt amounts to privately issued money.[152] Because cash equivalent instruments satisfy money demand, they are a source of extraordinarily cheap funding to their issuers.[153] This cheapness is further enhanced by implicit public backstops. Private money issuers thereby capture seigniorage revenue from the public by piggybacking on the state.[154] FedAccount would allow the public to recapture this leaked seigniorage. Increased fiscal revenue would thus reflect an efficient reduction in rent extraction—a reversal of existing wealth transfers from the public to the financial sector.[155]

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149 *See* Press Release, Bd. of Governors of the Fed. Rsrv. Sys., Federal Reserve Board Announces Reserve Bank Income and Expense Data and Transfers to the Treasury for 2019 (Jan. 10, 2020), https://www.federalreserve.gov/newsevents/pressreleases/other20200110a.htm [https://perma.cc/6AV4-JSF5].

150 *See supra* Section III.A.

151 The Fed's liabilities consist mostly of "base money," which is comprised of reserve accounts and currency in circulation. *Credit and Liquidity Programs and the Balance Sheet*, Bd. Governors Fed. Rsrv. Sys. (Dec. 27, 2018), https://www.federalreserve.gov/monetarypolicy/bst_frliabilities.htm [https://perma.cc/Q9W4-PMSU]. The Fed creates these liabilities by purchasing interest-bearing debt instruments. *Id.* FedAccounts would increase base money, thereby simultaneously increasing the interest-bearing debt instruments the Fed holds in its portfolio.

152 *See* Tarullo, *supra* note 109, at 6; *supra* text accompanying note 109.

153 *See* Robin Greenwood, Samuel G. Hanson & Jeremy C. Stein, *A Comparative-Advantage Approach to Government Debt Maturity*, 70 J. Fin. 1683, 1709 (2015).

154 *See id.* at 1705 (referring to the value derived from issuing money-like instruments as "seigniorage"); Christine Desan, Making Money: Coin, Currency, and the Coming of Capitalism 414–21 (2014) (discussing private capture of "seigniorage"); Frank D. Graham, *Partial Reserve Money and the 100 Per Cent Proposal*, 26 Am. Econ. Rev. 428, 430 (1936) (noting that banks earn "seigniorage profits"); Ulrich Bindseil, *Evaluating Monetary Policy Operational Frameworks*, Fed. Rsrv. Bd. Kan. City Econ. Pol'y. Symp., Aug. 2016, at 179, 190 (referring to "'seigniorage' income of banks").

155 *Cf.* Select Committee on the High Price of Gold Bullion, Report, 1810, HC, at 30–31 (UK) (noting during England's suspension of convertibility that bank money creation, "enabled under the protection of the law . . . at a very trifling expense," was "prejudicial to the

III. Structural Considerations

Having described FedAccount and its benefits, this Article now takes a broader, system-wide perspective. What would FedAccount mean for the central bank and the larger financial system? What makes FedAccount better than other CBDC designs currently being debated and, in some cases, implemented?[156] And how does FedAccount compare with other major banking reform proposals—narrow banking and postal banking—that share broadly similar, or at least overlapping, motivations? This Part answers each of these questions.

A. Banking, Central Banking, and "Intermediation"

Large-scale adoption of FedAccounts would require a permanently large central bank balance sheet, a prospect that even the Fed has embraced since it resumed balance sheet expansion in October 2019.[157] Such a permanent expansion would force some choices regarding the Fed's asset portfolio. Tracing these choices will reveal some of FedAccount's deeper, structural implications.

Perhaps the best way to begin is by outlining the institutional mechanics of large-scale migration from bank deposit accounts to FedAccounts. The migration can be broken down into three somewhat stylized phases. Because banks currently hold enormous excess reserve balances, the first phase would consist of reserve drainage. Banks' balance sheets would shrink as their deposit liabilities and reserve assets declined in tandem. During this initial phase, migration to FedAccounts would not affect the Fed's balance sheet size. The Fed's assets would stay the same and its liabilities would shift in composition—from accounts held by banks to accounts held by nonbanks—but not in amount.

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public welfare" and that, barring some other remedy, "some mode ought to be derived of enabling the State to participate much more largely in the profits accruing from" that issuance).

156 *See* Chen Ye & Kevin C. Desouza, *The Current Landscape of Central Bank Digital Currencies*, Brookings Inst. (Dec. 13, 2019), https://www.brookings.edu/blog/techtank/2019/12/13/the-current-landscape-of-central-bank-digital-currencies/ [https://perma.cc/TUV9-K5N8] (describing CBDC exploration and implementation in other countries).

157 *Compare* Fed. Open Mkt. Comm., Policy Normalization Principles and Plans (2014) (stating plan to normalize the balance sheet in 2014), *with* Press Release, Fed. Rsrv., Balance Sheet Normalization Principles and Plans 1 (Mar. 20, 2019) ("[T]he Committee intends to slow the pace of the decline in reserves over coming quarters provided that the economy and money market conditions evolve about as expected."); and Press Release, Fed. Rsrv., Statement Regarding Monetary Policy Implementation 1 (Oct. 11, 2019) ("[T]he Federal Reserve will purchase Treasury bills at least into the second quarter of next year in order to maintain over time ample reserve balances at or above the level that prevailed in early September 2019.").

Eventually, bank reserves would become scarce, and further migration to FedAccounts would risk creating bank liquidity shortages. To avoid this, the Fed would extend discount window loans to offset banks' lost deposit balances.[158] In this second phase, banks' balance sheets would stop shrinking. Their assets would stay the same and their liabilities would shift in composition—from deposit accounts to discount window borrowings—but not in amount. Concomitantly, in this phase the Fed's balance sheet would grow as incremental discount window lending matched incremental FedAccount balances. In effect, the central bank would "step in" as counterparty between migrating account holders and commercial banks.[159]

The central bank should charge actuarially fair rates for its discount window loans. This rate can be expressed as $R_f + P$, where R_f is the risk-free rate corresponding to the loan's duration and P is a risk premium reflecting bank-specific default risk. R_f is observable in the financial markets, but P requires valuation. Some might doubt the central bank's capacity to do this kind of valuation. As long as deposit insurance exists, however, the government must do this anyway. Since 1991, U.S. deposit insurance fees have been keyed to individual banks' default risks.[160] Calculating these fees is isomorphic to estimating *P*. They are the same thing. So, to the extent that FedAccount balances represent migration of insured bank deposits, the government as a whole neither assumes new risks nor undertakes new valuation functions. Risk-bearing and valuation are merely being relocated from one government agency to another.

True, not only insured depositors but also holders of (ostensibly) uninsured claims—deposit balances in excess of $250,000 as well as nondeposit claims, such as money market mutual fund shares—would migrate to FedAccounts.[161] But the government effectively bears much of this risk already. In the 2008 financial crisis, the FDIC re-

158 Ideally, these loans would be unsecured and pari passu with remaining deposits—in other words, identical in seniority and collateralization to the deposit funding being replaced—so as not to disadvantage any remaining depositors holding uninsured balances. This would require minor amendments to the Federal Reserve Act, which contemplates that all discount window loans be secured. *See* Federal Reserve Act § 10B(a), 12 U.S.C. § 347b(a).

159 This is called "novation."

160 The FDIC charges "risk-based" deposit insurance fees, albeit in a somewhat crude way. *See* 12 U.S.C. § 1817(b); 12 C.F.R.§ 327 (2020).

161 The Fed could also lend to nonbanks under its section 13(3) powers to replace lost repo funding and other forms of short-term wholesale funding, provided it deemed the circumstances "unusual and exigent." *See* Federal Reserve Act of 1913 § 13(3), 12 U.S.C. § 343(3). Unlike discount window loans, some of which the Fed might want to keep outstanding indefinitely (see below), any section 13(3) liquidity should be strictly transitional. Minor amendments to section

moved the $250,000 cap on deposit insurance coverage for transaction accounts.[162] The U.S. Treasury Department fully guaranteed money market mutual fund shares.[163] The Fed's crisis-related facilities were designed largely to prevent defaults on uninsured money-like claims issued by financial institutions.[164] It is wishful thinking to believe that such claims are not largely government-backed. However difficult it may be to estimate *P*, the correct answer is not zero. Implicit and uncompensated public insurance transfers wealth from the public to the financial sector. Replacing financial institutions' short-term and demandable debt funding with discount window lending would increase fiscal revenue while also reducing economic rent extraction.[165]

In the third and final phase, the central bank would gradually implement its desired asset portfolio. The central bank is not obliged to maintain discount window credit indefinitely. It may choose to substitute other assets over time in an orderly fashion. Its decisions in this regard will depend on two predominant factors. First, the central bank should value safety. Although central bank "solvency" is not especially important from an operational standpoint—central bank liabilities are not liabilities in any meaningful economic sense—the central bank might prefer to avoid the optics of negative equity.[166] More substantively, volatile assets would mean volatile seigniorage remittances, interfering with desirable fiscal smoothing.[167] Second, the central bank should value liquidity. By transacting in impersonal, liquid markets with observable market prices, the Fed reduces the need for valuation, relying instead on capital market efficiency to prevent it from systematically overpaying. These two considerations suggest steering the portfolio toward very high-quality, liquid bonds, such as U.S. Treasury securities.

13(3) might be in order to permit the Fed to supply liquidity to money market funds, which typically cannot borrow.

162 *See* FED. DEPOSIT INS. CORP., CRISIS AND RESPONSE: AN FDIC HISTORY, 2008–2013, at xii (2017) (stating that the FDIC "provided an unlimited deposit insurance guarantee" for some transaction accounts).

163 *See* Press Release, U.S. Dep't of the Treasury, Treasury Announces Temporary Guarantee Program for Money Market Funds (Sept. 29, 2008).

164 *See* RICKS, *supra* note 103, at 99–101.

165 *See supra* Section II.G.

166 *See generally* Igor Goncharov, Vasso Ioannidou & Martin C. Schmalz, *(Why) Do Central Banks Care About Their Profits?* (CESifo, Working Paper No. 6546, 2017) (exploring factors behind central banks' preference for profitability).

167 *Cf.* JONATHAN GRUBER, PUBLIC FINANCE AND PUBLIC POLICY 585 (2d ed. 2007) (arguing the desirability of tax smoothing).

Problematically, there may not always be enough Treasury securities to accommodate the desired money supply. This has been a recurring problem in American monetary history.[168] FedAccount, which could require an especially large central bank balance sheet, might compound it. Presumably, we would want the monetary system to work even if the government consistently balanced its budget.[169] Nor would expanding into safe and liquid *private* bonds necessarily ensure sufficient investment options. Market depth is limited, and the central bank could end up dominating these markets, pushing asset prices around and distorting credit allocation.[170] Optimal portfolio composition therefore cannot be determined a priori. It depends on the available supply of suitable investment assets in relation to the desired base money supply (which is a function of monetary policy).

In the face of a limited supply of safe and liquid bonds, the central bank could relax the safety criterion or the liquidity criterion or both. Relaxing the safety criterion would mean extending into riskier but still highly liquid assets, like corporate stocks. Not only would this

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168 *See* Marvin Goodfriend, *Policy Debates at the Federal Open Market Committee: 1993–2002*, *in* THE ORIGINS, HISTORY, AND FUTURE OF THE FEDERAL RESERVE 332, 355–56 (Michael D. Bordo & William Roberds eds., 2013) (describing the Fed's contingency planning in early 2000 when government debt was being paid down); ROGER LOWENSTEIN, AMERICA'S BANK: THE EPIC STRUGGLE TO CREATE THE FEDERAL RESERVE 14 (2015) (noting that in the late nineteenth century national banks' bank note issuance "was determined by the level of investment in government bonds, and this bore no relation to the needs of trade"); ROBERT E. LITAN, WHAT SHOULD BANKS DO? 21 (1987) (describing the same).

169 It would be unwise to force the government to adapt its fiscal posture to meet the economy's monetary needs. *See* Morgan Ricks, *Safety First? The Deceptive Allure of Full Reserve Banking*, 83 U. CHI. L. REV. ONLINE 113, 117–22 (2016) (describing "fiscal-monetary entanglement").

170 The European Central Bank ("ECB") has become a major player in investment-grade corporate bond markets since entering those markets in 2016. *See, e.g.*, Thomas Hale, *ECB Bond Buying Transforms Universe of Top Tier Debt*, FIN. TIMES (Nov. 28, 2017), https://www.ft.com/content/ad44f9b4-d375-11e7-a303-9060cb1e5f44 [https://perma.cc/6A2D-NVKH] ("Alongside a reduction in the outstanding universe of highly-rated assets, the sheer volume of purchases has placed huge downward pressure on bond yields."). The ECB seeks to make these purchases while "avoiding undue market distortions." *The ECB's Corporate Sector Purchase Programme: Its Implementation and Impact*, ECB ECON. BULL., no. 4, 2017, at 40, 41. Its success in this regard is debatable. *See, e.g.*, Sid Verma, *These 'Anomalous' Spreads Show How the ECB's Been Distorting Bond Markets*, BLOOMBERG (Apr. 6, 2017, 3:45 AM), https://www.bloomberg.com/news/articles/2017-04-06/these-anomalous-spreads-show-the-ecb-distorting-bond-markets [https://perma.cc/Q6SA-VNUA] (summarizing a market analyst's argument that the ECB's corporate bond purchases have "distorted the relative value of debt issued by a number of European companies."). Relatedly, the Federal Open Market Committee has stated its intention that the Fed will "hold primarily Treasury securities, thereby minimizing the effect of Federal Reserve holdings on the allocation of credit across sectors of the economy." FED. OPEN MKT. COMM., *supra* note at 157, at 1.

increase the risk of negative equity and make seigniorage revenue choppier, but it could put the central bank in the awkward position of exercising corporate governance rights. Relaxing the liquidity criterion would mean venturing into less liquid (though still high quality) credit markets, perhaps even direct lending to creditworthy borrowers. Valuation would become much more important, as capital market efficiency would not afford protection against overpaying. And the appearance or reality of politically motivated favoritism would become acute.

In view of these problems, the central bank might see considerable upside in keeping a substantial quantity of discount window credit outstanding indefinitely. This can be understood as portfolio management outsourcing. Chartered institutions receiving discount window credit—call them member banks—are controlled by residual claimants (stockholders) that have incentives to invest well. The central bank thus harnesses private incentives and expertise to allocate resources through individualized, information-intensive credit underwriting. This arrangement also insulates the central bank's investment function from the appearance or reality of political meddling and favoritism. The central bank would hold senior claims on portfolios of senior claims—a relatively safe, though by no means riskless, position.

Figure 1 compares FedAccount to the current U.S. money-and-banking system. It assumes a boundary case of full migration to FedAccounts, with no bank deposits remaining. The figure offers several key takeaways. First, the central bank's balance sheet is much larger under FedAccount than in the current system. To the extent that deposits are explicitly or implicitly insured in the current system, however, FedAccount does *not* cause the government to assume more risk. That the FDIC's contingent obligations are "off balance sheet" is a matter of accounting, not economic substance. Second, under FedAccount the government accrues seigniorage revenue from member banks through discount window lending. By contrast, deposit banks in the current system are not a source of fiscal revenue; deposit insurance fees flow to the deposit insurance fund and are suspended when it is fully funded.[171]

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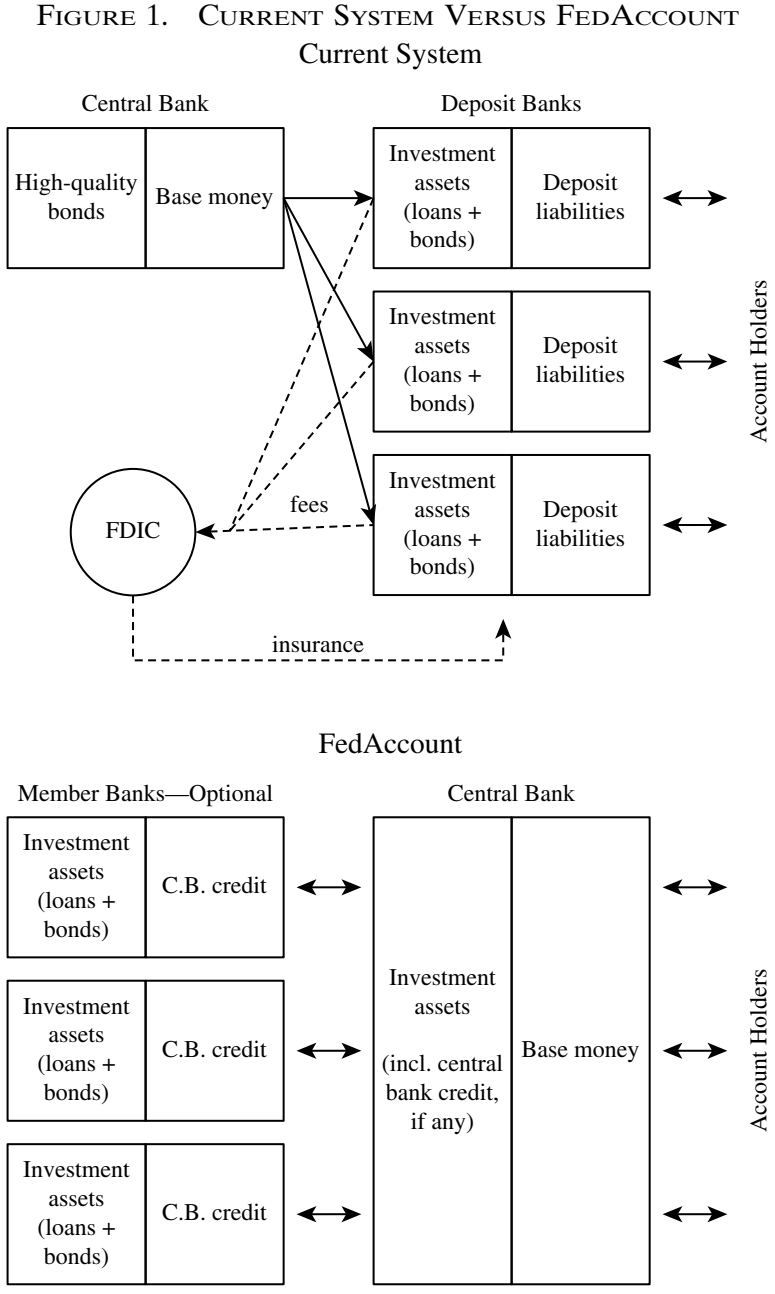
171 Before the enactment of the Dodd-Frank Wall Street Reform and Consumer Protection Act, Pub. L. No. 111-203, 124 Stat. 1376 (2010), the FDIC was required to declare "dividends" from the deposit insurance fund to participating deposit banks once the fund reached a certain size in relation to outstanding insured deposits. *E.g.*, *Financial Institution Letters: Deposit Insurance Assessments: Final Rule on Assessment Dividends*, FED. DEPOSIT INS. CORP. (Oct. 18, 2006), https://www.fdic.gov/news/financial-institution-letters/2006/fil06092.html [https://perma.cc/27AC-DKY6] (stating that the FDIC must "pay dividends from the Deposit Insurance Fund (DIF) to

FIGURE 1. CURRENT SYSTEM VERSUS FEDACCOUNT



Third, migration to FedAccounts would not necessarily affect the quantity or cost of credit in the broader economy. If all migrating

insured institutions when the DIF reserve ratio at the end of a calendar year exceeds 1.35 percent."). Dodd-Frank gave the FDIC discretion to suspend or limit the declaration of dividends. *See* Dodd-Frank Act § 332, 12 U.S.C. § 1817(e). Even as modified, though, the deposit insurance system does not function as a source of government revenue.

bank deposits were replaced dollar-for-dollar with discount window loans, the quantity of bank credit would be unaffected.[172] Some might suppose that, because banks' average cost of funds would rise, banks would raise their lending rates, increasing borrowing costs in the economy and decreasing the quantity of bank loans. But banks' lending decisions are usually thought to be determined by their *marginal* cost of funds, or the federal funds rate.[173] Holding monetary policy constant, this rate would be unchanged postmigration. There is strong empirical evidence of a disconnect between banks' lending rates and their deposit costs. Specifically, bank deposit rates respond asymmetrically to moves in the federal funds rate: when the federal funds rate declines, banks quickly reduce deposit rates, but when it rises, banks are very slow to raise deposit rates.[174] According to one study, sluggish deposit rate adjustments cost depositors *$100 billion per year* during rising rate environments.[175] By contrast, the prime rate (the standard bank lending benchmark) adjusts instantly when the federal funds rate rises.[176] It seems that banks capture much of the benefit of cheap deposit funding rather than "passing it along" to borrowers.

Even if banks' lending rates did rise after depositors migrated to FedAccounts, would this be a bad thing?[177] Suppose that some of banks' current funding subsidy does pass through to bank borrowers as a credit subsidy. Proponents of credit subsidies bear the burden of showing a market failure. Assuming for the sake of argument this case can be made, it remains to be asked whether subsidizing *banks*' funding is a sensible way of subsidizing credit. As just shown, banks themselves capture much of this subsidy. And more targeted subsidies for particular credit classes—say, student loans, small business loans, or residential mortgages—may be more effective. The U.S. federal gov-

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172 Banks currently hold about 35% of U.S. loans and 9% of U.S. debt securities, equating to about 20% of the $70 trillion U.S. debt markets; these figures need not change at all. *See* BD. OF GOVERNORS OF THE FED. RSRV. SYS., FEDERAL RESERVE STATISTICAL RELEASE: FINANCIAL ACCOUNTS OF THE UNITED STATES 117, 123 (2020).

173 *See, e.g.*, WALTER & COURTOIS, *supra* note 117, at 2.

174 *See* John C. Driscoll & Ruth A. Judson, *Sticky Deposit Rates* 2–3 (Fed. Rsrv. Bd. Fin. and Econ. Discussion Series, Working Paper No. 2013-80, 2013).

175 *Id.* at 3.

176 *Id.* at 14.

177 *Cf.* Adam J. Levitin, *Safe Banking: Finance and Democracy*, 83 U. CHI. L. REV. 357, 427 (2016) ("One concern about Pure Reserve Banking might be that it could result in a contraction of credit. It is not clear that this would be the case. Much depends on how much consumers and businesses really want to assume credit risk. . . . To the extent that there is a contraction of credit, however, it is right-sizing, because the level of credit would reflect risk-internalized pricing rather than subsidization.").

ernment already subsidizes these credit classes through dedicated programs.[178] Although this Article expresses no view on the merits of these programs as currently implemented—or for that matter on whether credit subsidies (as opposed to other uses of public resources) are a good way of doing public policy[179]—these programs do show that other, more direct ways of administering credit subsidies are feasible. Moreover, as a quantitative matter, there is no reason to suppose that the magnitude of banks' funding subsidies—which arise from a combination of underpriced and intermittently suspended deposit insurance fees, implicit guarantees, and seigniorage extraction—bears any relation to the optimal credit subsidy (if any). Finally, if bank lending rates did rise postmigration and this had a *macroeconomic* impact, the central bank would respond with monetary easing through balance sheet expansion or a lower IOR rate, either of which would reduce borrowing rates for all borrowers without rent capture by banks.

In the FedAccount system, it becomes natural to see bank charters through the lens of outsourcing or procurement. Member banks appear as instrumentalities or franchisees of the state rather than as private "intermediaries."[180] Procurement implies discretionary selection; free entry is nonsensical in a procurement setting. The central bank would select the "best" managers according to established criteria. Discretionary selection might initially seem foreign to banking, but it has a long pedigree. U.S. federal bank regulators traditionally looked to "the convenience and needs of the community" in passing on bank charter applications,[181] rejecting even qualified applicants on

178 *See, e.g.*, *Credit Subsidy Estimates for the Sections 7(a) and 504 Business Loan Programs Hearing Before the H. Comm. on Small Bus.*, 105th Cong. 48 (1997) (statement of Judy A. England-Joseph, Dir., Hous. & Cmty. Dev. Issues, U.S. Gen. Acct. Off.).

179 *See generally* SUZANNE METTLER, THE SUBMERGED STATE: HOW INVISIBLE GOVERNMENT POLICIES UNDERMINE AMERICAN DEMOCRACY 7 (2011) (arguing against "hidden form[s]" of government that "channel[ ] public resources predominately to wealthy Americans and privileged industries").

180 *Cf.* Robert C. Hockett & Saule T. Omarova, *The Finance Franchise*, 102 CORNELL L. REV. 1143, 1145, 1144–67 (2017) (challenging the view of banks as intermediaries between "privately-owned funds" and "other private . . . actors"). Doctrinally, national banks are already classified as federal instrumentalities. For a discussion of the relevant case law, see BARADARAN, *supra* note 21, at 1290–92.

181 *See* Banking Act of 1935, Pub. L. No. 74-305, § 101, 49 Stat. 684, 688; Bureau of the Comptroller of the Currency, 11 Fed. Reg. 177A-13, 177A-14 (Sept. 11, 1946). The statutory provision was deleted in 1991. *See* Federal Deposit Insurance Corporation Improvement Act of 1991, Pub. L. No. 102–242, § 115, 105 Stat. 2236, 2249.

this basis.[182] In this respect, bank regulation borrowed from an older tradition in public utility and common carrier regulation, where regulators have long required prospective providers to receive certificates of "public convenience and necessity" before commencing service.[183] The modern economic literature treats this regulatory technique as discretionary procurement,[184] a well-established administrative function.[185]

Finally, should it choose to outsource some portion of its portfolio allocation to member banks, the Fed will have to deal with incentive problems, namely moral hazard. Incentive problems afflict all agency relationships,[186] and moral hazard is endemic to insurance markets. Traditional U.S. bank regulation uses standard private-sector techniques for combating moral hazard, including portfolio constraints to limit risk-taking, equity capital requirements to absorb "first loss," and risk-based fees.[187] Hence FedAccount would not require any significant changes to the substantive contours of prudential bank regulation.

B. Shortcomings of Other CBDC Designs

This Article has described FedAccount as a type of CBDC—a digital currency issued by the central bank. CBDC has emerged as a front-burner topic at the world's major central banks, but the ongoing discussions rest on questionable design assumptions which, if adopted, would undermine the transformative potential of CBDC.

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182 *See* Kenneth E. Scott, *In Quest of Reason: The Licensing Decisions of the Federal Banking Agencies*, 42 U. CHI. L. REV. 235, 284–85 (1975).

183 *See, e.g.*, Transportation Act, 1920, Pub. L. No. 66-152, § 402, 41 Stat. 456, 477–78 (empowering the I.C.C. to control railroad entry and exit by issuing certificates of public convenience and necessity); William K. Jones, *Origins of the Certificate of Public Convenience and Necessity: Developments in the States, 1870–1920*, 79 COLUM. L. REV. 426, 426 (1979) (describing the origins of "[t]he certificate of public convenience and necessity"); *see also* Morgan Ricks, *Money as Infrastructure*, 2018 COLUM. BUS. L. REV. 757, 769 (describing "a close kinship" between "bank regulation and infrastructure regulation" sharing features including "entry restriction . . . based on public convenience and necessity").

184 *See* JOSÉ A. GÓMEZ-IBÁÑEZ, REGULATING INFRASTRUCTURE: MONOPOLY, CONTRACTS, AND DISCRETION 3 (2003) (describing infrastructure regulation as "particularly analogous to contracting in private sector procurement"); Harold Demsetz, *Why Regulate Utilities?*, 11 J.L. & ECON. 55, 63 (1968) (analyzing utility regulation from the perspective of franchise bidding).

185 *See, e.g.*, *Government Procurement*, OFF. U.S. TRADE REPRESENTATIVE, https://ustr.gov/issue-areas/government-procurement [https://perma.cc/B4D2-RMN7].

186 *See* RICKS, *supra* note 103, at 204.

187 *Id.* at 204–12.

Scholarly and policy discussions to date have focused heavily on a supposedly crucial distinction between "token-based" and "account-based" CBDC designs.[188] Token-based designs are understood to mimic features of physical currency, whereas account-based designs are thought to be more like traditional bank accounts.[189] Token-based designs purportedly offer three main advantages over account-based designs: greater peer-to-peer functionality, greater anonymity, and lower fraud protection and other customer service demands.[190] Analysts typically associate token-based designs with distributed ledger technology, such as the blockchain technology that undergirds Bitcoin and other cryptocurrencies.[191]

Although the token- versus account-based distinction may seem intuitive at first blush, it breaks down under examination. Distributed ledgers are still ledgers in which transactions must be recorded; they are fundamentally different from physical currency in this respect. Physical currency payments are literally peer-to-peer in the sense that they do not involve any third-party communications at all. Not so for digital currency transactions. Bitcoin payments are executed by transmitting messages to the entire Bitcoin network, where transaction records are permanently maintained.[192] These messages travel over existing telecommunications rails, and transfers are processed through automated protocols for debits and credits.[193] This is not dissimilar from electronic payments between bank accounts or between accounts at money services businesses like Venmo.[194] The physicalized imagery of "tokens" transferred between digital "wallets" is therefore rather misleading: ledgers, distributed or otherwise, are for keeping count, and one might as well call the ledger entries "accounts."

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188 COMM. ON PAYMENTS & MKT. INFRASTRUCTURES, *supra* note 12, at 4.

189 *See id.*

190 *See id.* at 6 (peer-to-peer transfer and anonymity); Brunnermeier et al., *supra* note 5, at 4–5 (describing account-based money in terms of banks' obligations to verify identity and their responsibility for customer refunds).

191 *See, e.g.*, John Barrdear & Michael Kumhof, *The Macroeconomics of Central Bank Issued Digital Currencies* 5 (Bank of Eng., Staff Working Paper No. 605, 2016) (defining "'digital currency' as any electronic form of money, or medium of exchange, that features a distributed ledger and a decentralised payment system"); Carstens, *supra* note 8, at 3 (also identifying token-based digital currency with distributed ledger technology).

192 SATOSHI NAKAMOTO, BITCOIN: A PEER-TO-PEER ELECTRONIC CASH SYSTEM 1 (2009), https://bitcoin.org/bitcoin.pdf [https://perma.cc/NQG5-269R].

193 *See id*.

194 E. Napoletano, *Moving Your Money: Electronic Funds Transfer*, FORBES, (July 16, 2020, 11:28 P.M.), https://www.forbes.com/advisor/banking/understanding-electronic-funds-transfer/ [https://perma.cc/Z429-KN7S].

As for anonymity, there is nothing inherent in distributed ledger technology that allows for more anonymity than account-based systems can provide. Anonymity is not a technological question but a policy question. Decentralized ledgers can be either permissioned or permissionless;[195] the same goes for centralized ledgers. There would be no *technological* impediment to letting people open bank accounts anonymously or pseudonymously. That society has chosen to forbid this as a public policy matter casts doubt on the wisdom of promoting absolute anonymity as a desirable CBDC feature. Discomfort with anonymity in central bank accounts should apply equally to anonymity in digital "wallets" containing CBDC "tokens." This Article questions whether facilitating greater anonymity in dollar-based payments should be among the Fed's policy objectives.[196] Regulatory policy has moved strongly in the opposite direction in recent decades for law enforcement and national security reasons.[197] People seeking pure anonymity can use other transaction means, such as physical currency, anonymous private cryptocurrencies, or precious metals-based exchange or other forms of barter. Perhaps fully anonymous payment systems should be left largely to "the market."[198]

The third way token-based CBDC designs purportedly mimic physical currency is that they do not impose ongoing fraud protection or other customer-service demands on the issuer. Once the central bank releases physical currency into circulation, the central bank is no longer involved in transfers and offers no recourse to victims of fraud or theft. Some analysts apparently envision token-based CBDCs working the same way.[199] A recent paper by three leading economists notes that what really distinguishes token-based from account-based digital currencies is that token-based currencies do not offer protection against unauthorized payment, whereas in account-based systems the intermediary assumes liability and refunds the account holder.[200] Although U.S. bank accounts offer such protections, this again is a

195 *See* Toshendra Kumar Sharma, *Permissioned and Permissionless Blockchains: A Comprehensive Guide*, BLOCKCHAIN COUNCIL (Nov. 13, 2019), https://www.blockchain-council.org/blockchain/permissioned-and-permissionless-blockchains-a-comprehensive-guide/ [https://perma.cc/M26Y-WE7K].

196 *See* Berentsen & Schär, *supra* note 17, at 104 ("[N]o reputable central bank would issue a decentralized virtual currency where users can remain anonymous.").

197 *See infra* Section IV.B.

198 *See* Berentsen & Schär, *supra* note 17, at 104 ("We believe that [the demand for anonymous payments] can and will be perfectly satisfied by the private sector, in particular through [private] cryptocurrencies.").

199 *See, e.g.*, COMM. ON PAYMENTS AND MKT. INFRASTRUCTURES, *supra* note 12, at 4.

200 *See* Brunnermeier et al., *supra* note 5, at 5.

policy (and in some cases a business) choice rather than an attribute of the underlying technology. U.S. law requires banks to make customers whole for unauthorized transfers in most circumstances.[201] There is nothing about a centralized ledger that makes protection against fraud or theft obligatory, just as there is nothing about decentralized ledger technology that would somehow prevent the central bank from offering such protection for token-based CBDC. More generally, this Article questions the apparent desire to replicate in CBDC the rampant fraudulent activity and security failures that have plagued the cryptocurrency space.[202]

If distributed ledger technology offers no inherent technological advantages over traditional centralized ledgers, it is hard to see any reason to favor token-based over account-based CBDC designs. Much of the excitement about distributed ledgers arises from distrust of government and central intermediaries.[203] But CBDC involves the central bank, by definition.[204] Besides, distributed ledgers in their current forms are painfully slow and costly compared with centralized systems like Fedwire.[205] For these reasons, there is no compelling basis for basing CBDC on distributed ledger technology.

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201 *See* MATTHEWS & NICKLES, *supra* note 42, at 213 ("[I]n case[s] of check fraud . . . the loss [usually] falls on the payor bank . . . ."); *id.* at 383 (issuing bank typically bears liability for unauthorized use of credit card); *id.* at 420 (bank usually bears liability for unauthorized commercial funds transfers); *id.* at 447 (same for unauthorized consumer funds transfers).

202 *See, e.g.*, Billy Bambrough, *Researchers Have Issued a Serious Bitcoin Security Warning*, FORBES (Sept. 12, 2019, 8:40 PM), https://www.forbes.com/sites/billybambrough/2019/09/12/researchers-have-issued-a-serious-bitcoin-qr-code-warning/?sh=57027b036d12 [https://perma.cc/U498-V3VL].

203 *See* Andrew Szmurlo, Linda Wu & Samantha Eyler-Driscoll, *Does the Growth of Bitcoin Have Anything to Do with Distrust of Government?*, PROMARKET (Feb. 21, 2018), https://promarket.org/2018/02/21/growth-bitcoin-anything-distrust-government/ [https://perma.cc/UTM9-GJ34].

204 Incidentally, despite the rhetoric about decentralization and disintermediation, millions who hold cryptocurrencies today *do* use central intermediaries to store these assets. *See, e.g.*, Brian Fung, *Move Deliberately, Fix Things: How Coinbase Is Building a Cryptocurrency Empire*, WASH. POST (May 17, 2018, 9:59 AM), https://www.washingtonpost.com/business/economy/move-deliberately-fix-things-how-coinbase-is-building-a-cryptocurrency-empire/2018/05/17/623d950c-587c-11e8-858f-12becb4d6067_story.html [https://perma.cc/B7LR-AVFJ] (describing Coinbase's role as a major cryptocurrency intermediary). For a typically mordant take on this issue, see Matt Levine, *Taking the Gold out of Goldman Sachs*, BLOOMBERG (Feb. 6, 2019, 2:01 PM), https://www.bloomberg.com/opinion/articles/2019-02-06/taking-the-gold-out-of-goldman-sachs [https://perma.cc/359A-YRMS] (observing of the clients of crypto exchange Quadriga CX, who lost their Bitcoin when Quadriga's founder (ostensibly) died without having provided anyone else access to the private keys to the company's digital wallets: "If you are a believer in the power of cryptocurrency, if you like its promise of trustless decentralized money, *why did you entrust millions of dollars of your money to one guy with a laptop?*").

205 *See, e.g.*, Ed Lin, *Bitcoin Can't Take a Bite Out of Visa, Mastercard*, BARRON'S (Mar. 28,

The preoccupation with "tokens" versus "accounts" has distracted CBDC analysts from the crucial issue: whether CBDC will be *integrated* with or *segregated* from the broader system of money and payments. In an integrated system, dollars would be fungible between existing bank accounts and CBDC accounts. Balances could be transferred seamlessly between such accounts; in other words, payments could be made or received directly between a CBDC account and an ordinary bank account. In a segregated system, by contrast, the CBDC system would be walled off from the existing system of money and payments. It would be an internal, closed system. Both parties to a CBDC transaction would need to have opted into CBDC digital wallets.

Although FedAccount would be an integrated system—central bank accounts are already central to the mainstream payment system—most of the CBDC literature to date envisions a segregated system design.[206] The stakes in this design choice are enormous. A segregated CBDC would further balkanize our system of money and payments and limit CBDC uptake, with no countervailing upside. Part of the preference for segregation may stem from a desire to forestall large-scale migration out of the existing banking system to CBDC. But if the CBDC system is segregated, any effort to limit its size in the face of high demand would make it difficult or impossible for the Fed to maintain par convertibility between CBDC and the dollar, risking the emergence of an altogether new currency denomination.[207] More-

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2018, 9:22 AM), https://www.barrons.com/articles/bitcoin-cant-take-a-bite-out-of-visa-mastercard-1522238401 [https://perma.cc/FH3Q-P5T2] (citing an analyst's report that "Visa can process 65,000 transaction messages per second, at full capacity, compared with fewer than 10 bitcoin transactions per second"); Kenneth Rapoza, *Here's One Reason Why Bitcoin Is in Freefall*, FORBES (Feb. 2, 2018, 11:34 AM), https://www.forbes.com/sites/kenrapoza/2018/02/02/heres-one-reason-why-bitcoin-is-in-freefall/?sh=10c5260567c8 [https://perma.cc/73RQ-6D7U] ("[I]n an odd twist, the North American Bitcoin Conference stopped accepting Bitcoin payments for tickets due to transaction fees and slow processing times for payment . . . ."); *see also* Anna Irrera & John McCrank, *Wall Street Rethinks Blockchain Projects as Euphoria Meets Reality*, REUTERS (Mar. 27, 2018, 12:58 PM), https://www.reuters.com/article/us-banks-fintech-blockchain/wall-street-rethinks-blockchain-projects-as-eupho-ria-meets-reality-idUSKBN1H32GO [https://perma.cc/DLM7-VDJ9] (describing large financial institutions "shelv[ing]" blockchain projects after realizing they can achieve the same benefits more cheaply with preexisting technology).

206 *E.g.*, Raphael Auer & Rainer Böhme, *The Technology of Retail Central Bank Digital Currency*, BIS Q.R., March 2020, at 85, 90–91 (describing a CBDC system where cryptocurrency payments are "segregated from the balance sheets of the payments service providers"). A token-based system would necessarily be segregated because distributed ledger technology is not interoperable with the existing account-based payment system.

207 *See, e.g.*, J.P. KONING, R3, FEDCOIN: A CENTRAL BANK-ISSUED CRYPTOCURRENCY 6–8 (2016) (describing a fixed currency peg and convertibility for Fedcoin, a proposed central bank cryptocurrency); Berentsen & Schär, *supra* note 17, at 103 ("To ensure parity between a crypto

over, the concern about overmigration is unwarranted in the first place.[208] FedAccount's transformational benefits described in Part II *depend* on large-scale migration. They also depend on integration and seamless interoperability with the existing, mainstream system of money and payments. Segregation would undermine all these benefits.

The Fed and other central banks should keep it simple. CBDC does not require new technologies.[209] It merely requires expanding access to a desirable, proven product that the Fed already offers—bank accounts at the central bank.[210] The existing CBDC literature has tended to overcomplicate and mystify a topic that should be straightforward. Physical currency is already an open-access resource, and central bank accounts can be as well.

C. Relation to Other Reform Proposals

This Section addresses narrow banking and postal banking proposals, whose features and motivations overlap with FedAccount. Insofar as they do overlap, FedAccount offers better solutions and more comprehensive benefits.

1. Narrow Banking

Narrow banking proposals aim to stabilize banking by restricting bank asset portfolios to super-safe assets.[211] In the original and purest narrow banking proposal—called full-reserve banking or the Chicago Plan[212]—deposit banks would own nothing but base money: currency and central bank balances.[213] Full-reserve banks would be cash warehouses.[214] Modern narrow banking variants would give deposit banks

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fiat unit and central bank reserves, the central bank must be willing to buy and sell any number of these tokens at par.").

208 *See supra* Section III.A.

209 *E.g.*, *supra* Part I, Section II.E.

210 *See supra* note 10.

211 *See* Arthur E. Wilmarth, Jr., *Narrow Banking as a Structural Remedy for the Problem of Systemic Risk: A Comment on Professor Schwarcz's Ring-Fencing*, 88 S. CAL. L. REV. POSTSCRIPT 1, 1–2 (2014).

212 *See generally* RONNIE J. PHILLIPS, THE CHICAGO PLAN & NEW DEAL BANKING REFORM (1995).

213 *See, e.g.*, Milton Friedman, A Program for Monetary Stability 70 (1959) (proposing a "100% reserves" system like the Chicago Plan); IRVING FISHER, 100% MONEY 9–10 (1935) (advancing a proposal that would require banks to permanently have "a cash reserve of 100% against its demand deposits"); HENRY C. SIMONS, ECONOMIC POLICY FOR A FREE SOCIETY 40, 62, 64 (1948) (describing a similar plan); Levitin, *supra* note 177, at 414 (discussing "[h]istorical 100% reserve-banking proposals").

214 FISHER, *supra* note 213, at 10.

slightly broader investment powers, allowing them to invest in extremely safe securities like Treasury bills.[215]

There is a sense in which FedAccounts, if broadly adopted, would modernize the original Chicago Plan by cutting out the middlemen.[216] Rather than holding accounts at full-reserve banks—pass-through vehicles for base money—people and businesses would just hold their accounts directly with the central bank. Economically, these approaches amount to the same thing. As noted in Part I, today's increasingly paperless money-and-payment system means that an extensive brick-and-mortar banking presence is no longer required to service payments.[217] The Chicago Plan's stability objectives can thus be achieved without any full-reserve "banks."

In another sense, though, FedAccount flips the original Chicago Plan on its head. In the original Chicago Plan, all money was base money, but the central bank outsourced to full-reserve banks the management of account balances[218]—the right side of the central bank's balance sheet. In FedAccount, this right-side function is not outsourced, but the central bank *may* choose to outsource at least a portion of its *left*-side (investment) function.[219] For the reasons stated above, there is a reasonable case for at least some left-side outsourcing, whereas right-side outsourcing is not only needless but counterproductive.

Figure 2 compares FedAccount to the Chicago Plan. Under the Chicago Plan, private banks would be warehouses or pass-through ve-

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215 *See, e.g.*, LAURENCE J. KOTLIKOFF, JIMMY STEWART IS DEAD: ENDING THE WORLD'S ONGOING FINANCIAL PLAGUE WITH LIMITED PURPOSE BANKING 6 (2010) (describing Limited Purpose Banking and proposing that "[a] single federal regulator . . . [should] supervise the custody and independent rating of all securities held by all mutual funds"); *see also* LITAN, *supra* note 168, at 23 (describing early government efforts to constrain banks to carefully selected securities); Gary Gorton & Andrew Metrick, *Regulating the Shadow Banking System*, BROOKINGS PAPERS ECON. ACTIVITY, Fall 2010, at 261, 284–87 (proposing a narrow bank regulatory model for the shadow banking system). A former Fed official has recently attempted to launch a narrow bank, TNB USA, Inc., that would serve institutional investors seeking to park large cash balances, though the Fed has so far resisted his efforts. *See* John Crawford, *Making Money Safe*, 95 NOTRE DAME L. REV. REFLECTION 1, 1–3 (2019) (critiquing the Fed's rationale for resisting TNB's efforts).

216 Aleksander Berentsen and Fabian Schär draw a similar analogy to the Chicago Plan in their discussion of central bank digital currencies. Berentsen & Schär, *supra* note 17, at 103.

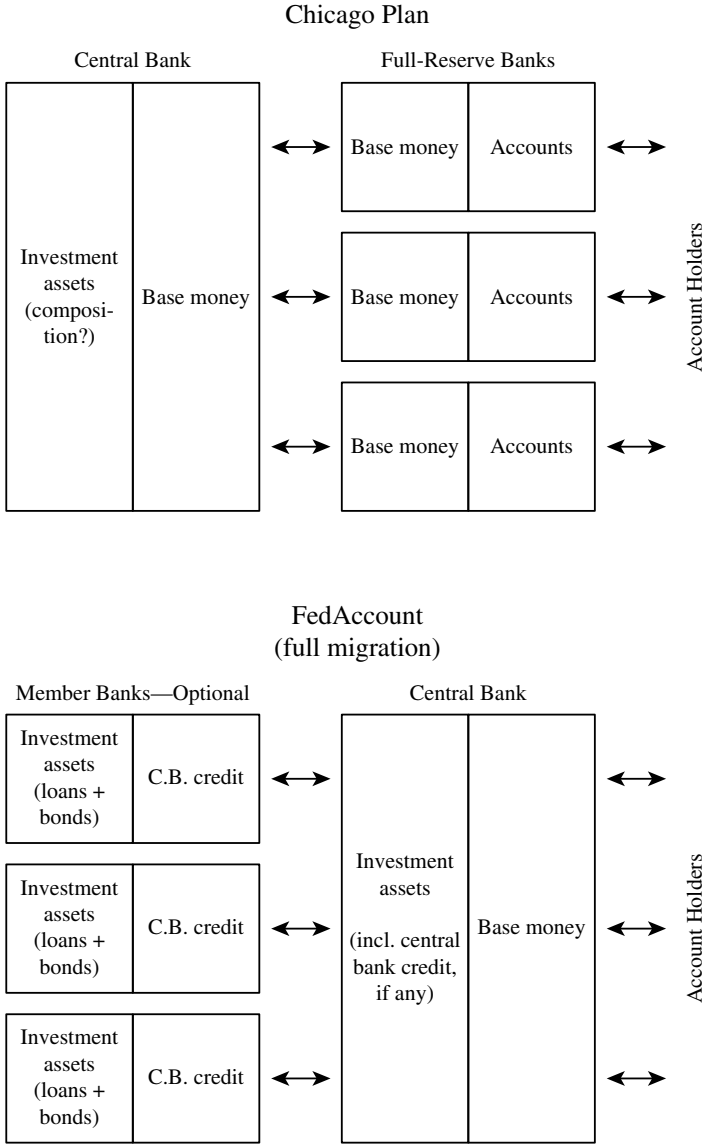
217 *See, e.g.*, Telis Demos, *Citigroup to Again Be a Nationwide Bank, but in Digital Form*, WALL ST. J. (Mar. 25, 2018, 7:00 A.M.), https://www.wsj.com/articles/citigroup-to-again-be-a-nationwide-bank-but-in-digital-form-1521975601 [https://perma.cc/3Q3S-K62Q] (describing Citigroup's plan "to pitch an entirely mobile relationship to a wide swath of consumers under its primary brand name").

218 *See supra* note 213 and accompanying text.

219 *See supra* Section III.A.

hicles for base money.[220] They would supply accounts and transaction services to the public. The central bank's portfolio composition under the Chicago Plan is an open question. Under FedAccount, the central bank would serve directly as account manager and transaction processor for the general public. Member banks, if any, would be portfolio allocators for the central bank but (assuming full migration) would not maintain customer accounts.

FIGURE 2. CHICAGO PLAN VERSUS FEDACCOUNT



220 *See* FISHER, *supra* note 213, at 10.

2. *Postal Banking*

Postal banking proposals would enlist the facilities, personnel, and civic mandate of the U.S. Postal Service to provide some financial services to those whose needs are not met by banks.[221] The postal system boasts ubiquity, particularly in towns and neighborhoods where bank branches are closing.[222] Postal banking is well established in other countries[223] and has historical precedent in the United States.[224]

The U.S. Postal Service already offers a handful of financial services, such as money orders.[225] Postal banking proposals would augment these services to include provision of prepaid, reloadable debit cards, savings account products,[226] and small-dollar loans.[227] The postal service would likely partner with one or more banks to provide these services.[228] Contrary to widespread belief, prepaid cards are *bank* products. They are linked to pooled bank accounts run by the card program managers and operate on standard bank-based payment rails.[229]

FedAccount and postal banking are philosophically harmonious. Both emphasize financial inclusion and champion direct public provisioning, though FedAccount can be viewed as *more* public because it

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221 *See* Postal Banking Act, S. 2755, 115th Cong. (2018) (proposing an amendment to Title 39 that would allow the U.S. Postal Service to provide basic financial services); BARADARAN, *supra* note 21, at 187–92, 197–205; OFF. INSPECTOR GEN., U.S. POSTAL SERV., RARC-WP-14-007, PROVIDING NON-BANK FINANCIAL SERVICES FOR THE UNDERSERVED 1 (2014) [hereinafter 2014 White Paper]; OFF. INSPECTOR GEN., U.S. POSTAL SERV., RARC-WP-15-011, THE ROAD AHEAD FOR POSTAL FINANCIAL SERVICES 1 (2015) [hereinafter 2015 Report].

222 *See* 2014 White Paper, *supra* note 221, at i–ii; Kevin Wack, *When a Small Town Loses Its Only Bank*, AM. BANKER (Feb. 2, 2020, 9:30 PM), https://www.americanbanker.com/news/when-a-small-town-loses-its-only-bank [https://perma.cc/4E2J-HUJY].

223 *See* 2014 White Paper, *supra* note 221, at 25.

224 *See id.* at 22.

225 *See id.* at ii.

226 S. 2755 § 2 (capping permissible postal savings accounts at the larger of (1) $20,000 or (2) "25 percent of the median . . . balance" in all U.S. bank accounts).

227 *See id.* (authorizing the post office to provide "low-cost, small-dollar loans, not to exceed $500 at a time, or $1,000 from 1 year of the issuance of the initial loan").

228 While the proposed Postal Banking Act rules out a USPS bank charter, it states the post office may offer savings and checking accounts "alone, or in partnership with depository institutions." *Id.* §§ 2, 5. The postal service's own documents, however, lean toward a partnership with private banks. *See* 2014 White Paper, *supra* note 221, at 9, 18; 2015 Report, *supra* note 221, at 27.

229 *See* Prepaid Accounts Under the Electronic Fund Transfer Act (Regulation E) and the Truth in Lending Act (Regulation Z), 81 Fed. Reg. 83,934, 83,937, 83,939–40 (Nov. 22, 2016) (to be codified at 12 C.F.R. pts. 1005, 1026) (describing the mechanics of prepaid card programs drawing on underlying pooled bank accounts); Insurability of Funds Underlying Stored Value Cards and Other Nontraditional Access Mechanisms, 73 Fed. Reg. 67,155, 67,156–57 (Nov. 13, 2008) (referring to prepaid cards as "access mechanisms" for the underlying accounts).

does not rely on private sector banks to manage accounts. Postal banking is a worthy policy measure—but when it comes to money and payments, FedAccount is far better. Postal banking does not offer the myriad transformative benefits (apart from inclusion) described above: financial stability, payment speed and efficiency, monetary policy transmission, eliminating transaction tolls, seigniorage recapture, and regulatory streamlining. Further, the cost burden on the postal service would be substantial because it would service small accounts only. By contrast, because FedAccount would attract large accounts in addition to small ones, system revenues would be substantial, likely covering system costs easily.[230] Finally, as noted in Part I, FedAccount could very well make use of postal facilities to host ATMs and possibly branch-type services. FedAccount could therefore be *branded* as postal banking; but this is just labeling. If postal banking is to be implemented through a back-end bank, that bank might as well be the public's bank.

Unlike most postal banking proposals,[231] FedAccount does not have a direct consumer lending component. Postal banking would focus on small dollar amounts—sums too small for a bank to lend directly to even the most creditworthy of customers. Direct consumer lending helps prevent those with short-term liquidity crises from turning to payday lenders, pawnshop operators, or loan sharks.[232] FedAccount would ameliorate this problem to some degree, because liquidity crises for those living paycheck to paycheck often arise from, or are exacerbated by, slow payment processing.[233] Moreover, FedAccount would increase savings rates among currently un- and underbanked households. But FedAccount, in and of itself, admittedly is not a robust response to these households' *credit* needs.

That said, FedAccount contemplates a large central bank balance sheet, which carries with it the possibility of channeling credit to achieve specified social ends. One could imagine a dedicated portfolio allocation to small-dollar consumer lending. This Article has reservations about putting government agencies, whether the Fed or the postal service, in the small-dollar debt collection business. As described above, there are strong reasons for outsourcing individualized portfo-

230 *See supra* Section II.G.

231 *E.g.*, *supra* text accompanying notes 226–27.

232 *Cf.* 2014 White Paper, *supra* note 221, at i (noting that underserved Americans "use costly services like payday loans and check cashing exchanges" because they are not effectively served "by the traditional financial sector").

233 *See supra* Section II.G.

lio allocation decisions in lending markets to member banks.[234] But outsourcing need not imply complete loss of control. The central bank can readily condition bank membership on compliance with credit distribution requirements. The Community Reinvestment Act of 1977[235] does this today, requiring insured banks to take demonstrable measures to meet the credit needs of their entire communities.[236] FedAccount is not a consumer lending program, but it is compatible with such programs; indeed, small-dollar lending through the post office could easily coexist with FedAccount.

Operationally, money and payments are quite different from lending. Money and payments are processing-intensive and raise distinctive network-type issues involving interconnection and network externalities.[237] They have infrastructural characteristics not present in lending markets. Lending involves more individualized, context-specific analysis. These two activities are quite different, and they should be treated separately in policy analysis.

IV. Costs and Objections

This Section addresses potential objections to and costs of FedAccount. The costs do not outweigh the massive benefits described above.

A. Institutional Competence

Some may question whether the Fed, or for that matter any governmental organ, has the institutional competence to manage a system like FedAccount. This Article does not share these qualms. FedAccount is a system for payments and accounts: a ledger combined with processes and protocols for debiting and crediting balances. The Fed already does this very efficiently on a huge scale. Today, it maintains account liabilities totaling about $4.8 trillion.[238] As a point of comparison, JPMorgan Chase, Bank of America, and Wells Fargo have total deposit liabilities of $2.0 trillion, $1.7 trillion, and $1.4 trillion, respectively.[239] The Fed has vast and longstanding expertise in transaction

234 *See supra* Section III.A.

235 12 U.S.C. §§ 2901–2908.

236 *Id.*; 12 C.F.R. pts. 25, 195, 228, 345.

237 *See supra* Sections II.B, II.E.

238 *See* Fed. Rsrv., Statistical Release: Factors Affecting Reserve Balances of Depository Institutions and Condition Statement of Federal Reserve Banks para. 5 (Nov. 12, 2020).

239 *See* JPMorgan Chase & Co., Earnings Release Financial Supplement: Third

processing.[240] FedAccount would involve scaling up these existing functions.

Admittedly, the Fed does not have experience in *retail* operations. It would need to build a user-friendly web portal and a mobile phone application for FedAccount holders, as well as a customer service department. Retail operations would also present challenges in the areas of law enforcement and counterterrorism as well as cybersecurity and fraud prevention.[241] Building this retail infrastructure would be challenging, but thousands of banks have done it successfully. And all sorts of governmental entities already interface directly with the public. Notably, the U. S. Treasury Department processes over one billion payments per year and disburses benefits to millions of Social Security and pension recipients each month.[242] The U.S. Treasury Department also settles claims resulting from forged, lost, and stolen benefit checks and collects monies from parties liable for fraud.[243] Following the botched roll out of healthcare.gov, the Executive Office of the President set up the U.S. Digital Service ("USDS"), which recruits top technologists for term-limited tours of duty in the federal government.[244] USDS has dramatically improved direct services in areas ranging from the Education Department's $1 trillion student loan program to the Department of Homeland Security's immigration program.[245]

Finally, by improving the pass-through of the Fed's interest rate adjustments and reducing the size and complexity of large financial institutions,[246] FedAccount would bolster the Fed's ability to competently carry out its other core duties.

QUARTER 2020, at 3 (2020); BANK OF AM., SUPPLEMENTAL INFORMATION: THIRD QUARTER 2020, at 5 (2020); WELLS FARGO, 3Q20 QUARTERLY SUPPLEMENT 7 (2020).

240 *See* FED. RSRV. SYS., *supra* note 134, at 118–151.

241 *See supra* Sections II.B, II.C.

242 *See* FED. RSRV. SYS., *supra* note 134, at 122–29.

243 *See* U.S. DEP'T OF THE TREASURY, BUREAU OF THE FISCAL SERV., CONGRESSIONAL JUSTIFICATION FOR APPROPRIATIONS AND ANNUAL PERFORMANCE REPORT AND PLAN: FY 2018, at 18–19 (2017).

244 Jessie Bur, *Inside the Agency Where You Wish You Worked*, FED. TIMES (July 25, 2018), https://www.federaltimes.com/it-networks/2018/07/25/inside-the-agency-where-you-wish-you-worked/ [https://perma.cc/PF45-URL5].

245 *See* U.S. DIGIT. SERV., REPORT TO CONGRESS 3, 10, 28 (2017).

246 *See supra* Sections II.D, II.F.

B. Law Enforcement and Counterterrorism

The Bank Secrecy Act of 1970,[247] as amended by the USA PATRIOT Act,[248] requires financial institutions to assist the government in preventing money laundering, countering terrorist financing, and addressing other suspicious financial activity.[249] The Secretary of the Treasury, acting through the Financial Crimes Enforcement Network ("FinCEN"), administers these laws and has promulgated rules requiring banks to file currency transaction reports for transactions exceeding $10,000 and suspicious activity reports for behavior suggesting money laundering, tax evasion, or other illicit activity.[250] Banks must also conduct customer due diligence before opening new bank accounts.[251]

Technically speaking, the Fed is not subject to these rules and requirements,[252] but FedAccounts should nonetheless fully comply.[253] The Fed is already intimately familiar with these rules because it helps enforce them for the banks it regulates.[254] Although the Fed would initially hire an external service provider to conduct customer identification reviews and customer due diligence, over time it presumably would build its own "know your customer" ("KYC") utility to handle Bank Secrecy Act/anti–money laundering ("BSA/AML") compliance. This utility could also double as a service to other banks and financial firms,[255] and the resulting fees could offset some or all of FedAccounts' compliance costs. Although BSA/AML compliance will likely

247 Pub. L. No. 91-508, 84 Stat. 1118 (codified as amended in scattered sections of 12 & 15 U.S.C.).

248 Uniting and Strengthening America by Providing Appropriate Tools Required to Intercept and Obstruct Terrorism ("USA PATRIOT") Act of 2001, Pub. L. No. 107-56, tit III, 115 Stat. 272, 296.

249 *Id.*; 31 U.S.C. § 5311.

250 *See* 31 C.F.R. § 1010.311 (2019) (filing obligations for reports of transactions in currency); *id.* § 1010.320 (reports of suspicious transactions).

251 *See id.* § 1020.220.

252 *See id.* § 1010.605(e) (defining "covered financial institution").

253 *See* Berentsen & Schär, *supra* note 17, at 104 (noting that failure to comply would undermine the policy motivating these requirements for commercial banks).

254 *See Supervisory Policy and Guidance Topics: Enforcement*, Bd. Governors Fed. Rsrv. (Aug. 13, 2020), https://www.federalreserve.gov/supervisionreg/topics/enforcement.htm [https://perma.cc/3ZUQ-DUDL].

255 *See* The Clearing House, A New Paradigm: Redesigning the U.S. AML/CFT Framework to Protect National Security and Aid Law Enforcement 19 (2017) (recommending "[a]n AML/sanctions utility [to] facilitate the bulk screening of transactions" to be run by a government agency or a private sector consortium); *id.* at 5 (explaining that "[f]inancial institutions devote vast resources to activities that could easily be performed centrally by government"); Juan C. Zarate & Chip Poncy, *Designing a New AML System*, Clearing House (2016), https://www.theclearinghouse.org/banking-perspectives/2016/2016-q3-banking-perspectives/arti-

be one of the biggest FedAccount expenses (alongside fraud protection and cybersecurity), FedAccount will likely result in a net reduction of BSA/AML compliance expenditures for the financial sector as a whole,[256] owing to economies of scale and reductions in duplicative AML reviews.[257]

C. Cybersecurity and Fraud Prevention

Cybersecurity and fraud prevention for FedAccounts would place a significant new burden on the Fed. Criminals, fraudsters, and opportunistic hackers will likely target FedAccounts just as they target existing retail banks and payment networks.[258] The Fed already runs a highly secure information technology system with expert cyber-defense capabilities at the *system* level.[259] But even the most robust perimeter security would not stop customers from compromising their *individual* accounts—misdirecting funds, losing their passwords, or falling prey to malicious actors.[260] Although the Fed has made substantial strides in improving its fraud detection systems in the wake of

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cles/a-new-aml-system [https://perma.cc/U5LT-XHFF] (outlining the need for more centralized information sharing).

256 The expenditures are large. *See* Emma Dunkley, *Vetting Clients is a Complex Problem for Banks*, FIN. TIMES (Sept. 26, 2016), https://www.ft.com/content/9b18d648-4ff5-11e6-8172-e39ecd3b86fc [https://perma.cc/GMW8-ZHKU] (noting that some large financial institutions spend up to $500 million per year on KYC); Tim Lloyd, *2017 AML Year in Review*, ABA BANKING J. (Feb. 1 2018), https://bankingjournal.aba.com/2018/02/2017-aml-year-in-review/ [https://perma.cc/E7X2-ZMMR] (noting that AML spending by U.S. firms is estimated to reach $8 billion per year).

257 Numerous checks are typically performed today when people move money between accounts at different financial institutions. Eighty percent of AML compliance cost is dedicated to information gathering and processing, tasks that are performed for the same customers over and over again by different institutions. *See* EAMONN MAGUIRE, DAVID HICKS, WEI KEAT NG, TEK YEW CHIA & STEPHEN MARSHALL, KPMG, COULD BLOCKCHAIN BE THE FOUNDATION OF A VIABLE KYC UTILITY? 2 (2018), https://assets.kpmg/content/dam/kpmg/xx/pdf/2018/03/kpmg-blockchain-kyc-utility.pdf [https://perma.cc/LP6M-LEV8].

258 *See Timeline of Cyber Incidents Involving Financial Institutions*, CARNEGIE ENDOWMENT FOR INT'L PEACE, https://carnegieendowment.org/specialprojects/protectingfinancialstability/timeline [https://perma.cc/6N88-JXF7].

259 *See* Shane Harris, *Exclusive: Meet the Fed's First Line of Defense against Cyber Attacks*, FOREIGN POL'Y (Apr. 29, 2014, 12:24 A.M.), https://foreignpolicy.com/2014/04/29/exclusive-meet-the-feds-first-line-of-defense-against-cyber-attacks/ [https://perma.cc/CRU4-AH9U] (describing the National Incident Response Team, the Fed's "crack cyber security unit"). Furthermore, the Treasury auction process now includes many bidders and transacts trillions of dollars per year. *See Treasury Auctions*, FED. RSRV. BANK N.Y. (Mar. 28, 2018), https://www.newyorkfed.org/aboutthefed/fedpoint/fed41.html [https://perma.cc/U6J5-PLD2].

260 *See, e.g.*, Stacy Cowley, *Zelle, the Banks' Answer to Venmo, Proves Vulnerable to Fraud*, N.Y. TIMES (Apr. 22, 2018), https://www.nytimes.com/2018/04/22/business/zelle-banks-fraud.html [https://perma.cc/EW4N-3R3B].

the Bangladesh Bank Heist,[261] it would have to make a major investment in cybersecurity to run FedAccount properly.

Such an effort is not as far from the government's core competence as it might seem. Not only does the Fed already have experience protecting its existing payments systems,[262] but other executive branch departments have taken an increasingly large role in helping retail banks protect their own systems.[263] The Fed could turn to the U.S. Department of Homeland Security or third-party contractors to ensure that its account security system is state of the art. Of course, the Fed would not succeed in detecting or preventing all fraud, but the Fed could insure consumer losses from cybertheft, just as private banks do now.[264]

D. Privacy and Civil Liberties

Managing citizens' bank accounts implicates their privacy and civil liberties. There is a risk that governmental actors could abuse the information or inadvertently or deliberately share it with third parties. Although these concerns are legitimate, some perspective is in order for four reasons.

First, the degree to which existing bank accounts are "private" should not be overstated. The Fourth Amendment does not protect information contained in bank records.[265] Federal statutory law does

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261 Hackers attempted to transfer up to $1 billion from Bangladesh Bank's account in the Federal Reserve Bank of New York to accounts in the Philippines. *See* Devlin Barrett & Katy Burne, *FBI Investigating Bangladesh Bank-Account Heist*, WALL ST. J. (Mar. 18, 2016, 11:11 AM), https://www.wsj.com/articles/fbi-investigating-bangladesh-bank-account-heist-1458313232 [https://perma.cc/3HKA-QS3V]; *Fed Develops New Fraud Prevention Model*, CENT. BANKING (June 19, 2020), https://www.centralbanking.com/central-banks/financial-market-infrastructure/7564751/fed-develops-new-fraud-prevention-model [https://perma.cc/28K6-8DVT].

262 *See supra* note 259 and accompanying text.

263 For example, the Financial and Banking Information Infrastructure Committee promotes public-private partnerships "to improve the reliability and security of the financial sector infrastructure." *Mission and History*, FIN. & BANKING INFO. INFRASTRUCTURE COMM., https://www.fbiic.gov/mission-history.html [https://perma.cc/SJ6G-4W63]; *see also* Press Release, Fed. Rsrv., Fed Prepares for Next Phase of Payments Security Effort as Secure Payments Task Force Concludes (Mar. 1, 2018), https://www.federalreserve.gov/newsevents/pressreleases/other20180301a.htm [https://perma.cc/Q4QE-R4LX] (describing past and planned future collaborative efforts with industry).

264 *See* Robert K. Knake, *No, the FDIC Doesn't Insure Your Bank Account Against Cybercrime (and Why That Is OK)*, COUNCIL ON FOREIGN RELS. (Dec. 2, 2015), https://www.cfr.org/blog/no-fdic-doesnt-insure-your-bank-account-against-cybercrime-and-why-ok#:~:text=contrary%20to%20what%20many%20people,private%20insurance%20for%20fraud%20loss [https://perma.cc/DA57-BHVD] ("[M]ost banks have private insurance for fraud loss.").

265 This is the "third-party doctrine." United States v. Miller, 425 U.S. 435, 437 (1976) (holding that financial records given to a third-party financial institution receive no Fourth

provide some basic privacy coverage for financial records, including bank accounts: the Right to Financial Privacy Act[266] affords procedural protections to individuals (but not businesses) when law enforcement agencies seek bank records,[267] and the Gramm-Leach-Bliley Act[268] requires financial institutions to safeguard sensitive customer information.[269] But Congress has chosen over time to balance these privacy concerns with other priorities, especially crime prevention and national security. For instance, BSA/AML compliance by banks requires extensive reporting to the government of qualifying financial transactions.[270] FinCEN's database of currency transaction reports and suspicious activity reports contains hundreds of millions of entries, and law enforcement agencies and government investigative bodies search it many hundreds of times daily.[271]

Second, federal government agencies are not exempt from privacy law and policy—far from it. It is a fact of modern life that certain federal government agencies possess sensitive information pertaining to individuals, such as health records and financial records. The Fed is already subject to the Privacy Act of 1974,[272] the "grandfather of federal privacy,"[273] which requires government agencies to protect data they possess on individuals.[274] The Act includes procedural constraints on law enforcement access[275] and requires agencies to establish safe-

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Amendment protection). Also, bank accounts can be garnished or levied by creditors, including federal government agencies acting in their creditor capacities. *See Garnishing Federal Benefits*, FED. TRADE COMM'N (May 2009), https://www.consumer.ftc.gov/articles/0114-garnishing-federal-benefits [https://perma.cc/AHK6-J9RK] (describing federal benefits that can be garnished from a bank account by creditors). FedAccounts would be no more readily garnishable than commercial bank accounts.

266 12 U.S.C. §§ 3401–3422.

267 *Id.*

268 Pub. L. No. 106-102, 113 Stat. 1338 (codified in scattered sections of 12 & 15 U.S.C.).

269 15 U.S.C. §§ 6801–6809.

270 *See supra* Section IV.B.

271 *See* U.S. GOV'T ACCOUNTABILITY OFF., GAO-20-574, ANTI-MONEY LAUNDERING OPPORTUNITIES EXIST TO INCREASE LAW ENFORCEMENT USE OF BANK SECRECY ACT REPORTS, AND BANKS' COSTS TO COMPLY WITH THE ACT VARIED (2020), https://www.gao.gov/assets/710/709547.pdf [https://perma.cc/D2KY-TREY] ("As of December 2018, GAO found that the Financial Crimes Enforcement Network (FinCEN) granted the majority of federal and state law enforcement agencies and some local agencies direct access to its BSA database, allowing them to conduct searches to find relevant BSA reports. FinCEN data show that these agencies searched the BSA database for about 133,000 cases in 2018 . . . .").

272 5 U.S.C. § 552a; 12 C.F.R. § 261a (2020).

273 Erin Murphy, *The Politics of Privacy in the Criminal Justice System: Information Disclosure, the Fourth Amendment, and Statutory Law Enforcement Exemptions*, 111 MICH. L. REV. 485, 499 (2013).

274 5 U.S.C. § 552a.

275 *See id.* § 552a(b)(7).

guards to ensure data security and confidentiality.[276] The Fed also uses "Privacy Impact Assessments," as mandated by the E-Government Act of 2002,[277] to help ensure privacy issues are prioritized when systems containing individuals' data are established or overhauled.[278] And the Office of Management and Budget requires all federal agency employees with access to systems that include personally identifiable information to undergo initial training on privacy duties, with annual refreshers thereafter.[279]

Third, more stringent privacy protection can be brought to bear if desired. A highly pertinent example here is the Internal Revenue Service ("IRS"). For many individuals and businesses, tax records are much more extensive and sensitive than bank records. Although the IRS has not been entirely free from controversy in recent years,[280] it has largely been beyond reproach in protecting taxpayers' private information. Tax returns and the information they contain are confidential,[281] and "federal income tax records are among the most protected pieces of personal information; laws strictly circumscribe law enforcement access to tax records."[282] The IRS has adopted comprehensive policies and procedures to protect private data[283] and invests heavily in compliance.[284] Data access is carefully limited and tracked within the agency.[285] Unauthorized disclosure and even inspection are crimi-

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276 *See id.* § 552a(e)(10).

277 Pub. L. 107-347, 116 Stat. 2899 (codified in scattered sections of 44 U.S.C.).

278 *Id.* § 208, 44 U.S.C. § 3501.

279 *See* Memorandum from Clay Johnson III, Deputy Dir. for Mgmt., Off. of Mgmt. & Budget, Exec. Off. Of the President, to Heads of Exec. Dep'ts. & Agencies 5 (May 22, 2007).

280 *See, e.g.*, Peter Overby, *IRS Apologizes for Aggressive Scrutiny of Conservative Groups*, NPR (Oct. 27, 2017, 3:08 P.M.), https://www.npr.org/2017/10/27/560308997/irs-apologizes-for-aggressive-scrutiny-of-conservative-groups [https://perma.cc/N3QH-EVFC] ("[T]he IRS 'express[ed a] sincere apology' for mistreating a conservative organization called Linchpins of Liberty—along with 40 other conservative groups—in their applications for tax-exempt status."). This type of controversy, arising from discretionary judgments at a granular level, is one reason it might make sense for the Fed to outsource certain portfolio allocation decisions, as described in Section III.A.

281 I.R.C. § 6103.

282 Murphy, *supra* note 273, at 513.

283 *See Internal Revenue Manuals: Part 10. Security, Privacy, and Assurance*, INTERNAL REVENUE SERV. (Oct. 21, 2020), https://www.irs.gov/irm/part10 [https://perma.cc/D7PE-VBSA].

284 *See generally* U.S. DEP'T OF THE TREASURY, 2017 ANNUAL PRIVACY, DATA MINING, AND SECTION 803 REPORTS. 9 (2017) (describing measures implemented by the IRS, among other departments, in privacy protection and compliance).

285 *See* Alan Rappeport, *Will a Leak Reveal Trump's Tax Returns? Don't Hold Your Breath*, N.Y. TIMES (Mar. 9, 2017), https://www.nytimes.com/2017/03/09/us/politics/taxes-trump-irs.html [https://perma.cc/MS36-T9P5].

nal offenses punishable by imprisonment[286] and civil damages, including punitive damages.[287] In creating a legal and logistical framework for privacy protection, the IRS could serve as a useful model for FedAccount. The Fed's unmatched level of administrative independence supplies an extra layer of protection in this regard.[288]

Fourth, it bears repeating that FedAccount provides a public *option*. Those not comfortable with the Fed possessing their bank statements need not sign up.

E. Fintech as an Alternative

Greater financial inclusion and payment efficiency are central benefits of the FedAccount program, but one may query whether technological advancements in the private financial sector—so-called "Fintech"—cannot achieve similar benefits.[289] Passively waiting for this to happen would be unwise. Other countries have achieved impressive financial inclusion and payment system efficiency without waiting for technological solutions.[290] Recent Fintech developments have in some ways exacerbated U.S. payment system fragmentation, and they overwhelmingly serve those who were already "banked."[291] And even if Fintech offered meaningful improvement along these dimensions, FedAccount offers a host of other benefits that no Fintech solution could realistically match: bolstering financial stability, improving monetary policy transmission, eliminating interchange fees, promoting financial regulatory simplification, and enabling the government to recapture seigniorage. Although continuing Fintech innovations are welcome, they should not serve as an excuse for public policy stasis.

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286 *See* I.R.C. §§ 7213(a)(1), 7213A (disclosure and inspection, respectively).

287 *See* I.R.C. § 7431 (civil damages).

288 *See* Peter Conti-Brown, *The Institutions of Federal Reserve Independence*, 32 YALE J. REG. 257, 259 (2015) (stating that the Fed has "unique independence").

289 *See, e.g.*, Michael Barr, Karen Gifford & Aaron Klein, *Enhancing Anti-Money Laundering and Financial Access: Can New Technology Achieve Both?* 3 (Brookings Inst., Working Paper, 2018) (exploring how Fintech might increase financial inclusion without sacrificing other priorities in the area of cross-border payments).

290 *See* Demirguc-Kunt et al., *supra* note 51 at 83–84.

291 *See, e.g.*, Ricks, *supra* note 183, at 828–36. One exception to serving the already banked is prepaid debit cards, which have had a small but tangible impact in facilitating payment and savings for underserved populations—though note this "innovation . . . [']run[s] on old rails.'" *Id.* at 834–35 (quoting MICHAEL S. BARR, HOWELL E. JACKSON & MARGARET E. TAHYAR, FINANCIAL REGULATION: LAW AND POLICY 796 (2016)).

F. Regulation as an Alternative

Regulatory mandates are another potential way to achieve financial inclusion. In Canada, for example, banks are required to open accounts for applicants unless an enumerated exception applies.[292] Ninety-nine percent of Canadian households have full access to banking services.[293] This would be a plausible approach to advancing financial inclusion in the United States, although fragmentation in the U.S. banking system and the paucity of trust in banks among underserved populations could limit the effectiveness of such a mandate.[294] But, as with Fintech, a regulatory mandate to serve all customers would fail to yield the assorted other benefits of FedAccount, many of which would be difficult or impossible to achieve through regulatory means. And FedAccount can of course coexist with, and even complement, regulatory measures to improve financial inclusion.

G. Effects on Lending, Small Banks, and Financial Innovation

How would FedAccount affect private provisioning of financial services? As noted in Section III.A, FedAccount *might* increase banks' funding costs by removing distortive subsidies—but that would be a *good* thing. It should be kept in mind that lending markets are competitive. Deposit banks have no monopoly on extending credit; they coexist with myriad other financial institutions that make loans and buy bonds.[295] If profitable lending opportunities exist, the market should be expected to ferret them out. To take an extreme case, suppose all bank deposits migrated to FedAccounts, and suppose the central bank opted to gradually shift its portfolio away from discount window credit to member banks and toward bonds purchased on the secondary market. As this shift unfolded, private-sector bond investors—such as mutual funds—would find themselves with excess funds. To the extent that financial markets are efficient, these funds would make their way—directly or indirectly—to lending markets if that was their optimal use.

Relatedly, some may be concerned that FedAccount would adversely affect small banks, but there is no reason to expect any disparate impact. Large-scale migration to FedAccounts would require

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292 The exceptions generally relate to fraud prevention. *See* Access to Basic Banking Services Regulations, SOR/2003-184, § 3 (Can.) (issued pursuant to sections 448.1(3), 458.1(2), and 459.4 of the Bank Act, S.C. 1991, c 46 (Can.)).

293 *See* Demirguc-Kunt et al., *supra* note 51, at 83.

294 *See* Ricks, *supra* note 183, at 828–30.

295 *See* Ricks, *supra* note 183, at 779.

large and small banks alike to seek alternative funding, and discount window credit would be available to each. To the extent that small bank subsidies are desired, rates on discount window credit could be graduated. There is regulatory precedent for this; for example, U.S. reserve requirements are graduated so as to benefit small banks.[296]

Nor is FedAccount likely to chill or undermine private sector innovation in financial services. Among other things, the Fed can adopt an open application programming interface ("API") functionality that would allow third-party developers to design applications for FedAccount. These applications could help account holders with their financial planning or use their transaction information to offer them cheaper credit, for example.[297] In fact, FedAccount would likely open up the market and quicken innovation in the financial services space: as it stands today, incumbent banks have little incentive to allow other companies to build freely on their proprietary platforms and payment systems.[298] Finally, if private businesses can offer money-and-payment solutions that are superior to FedAccount, there is nothing to stop them from doing so.

H. Asset-Liability Synergies

Another potential objection to FedAccount is that it would sever a purported synergistic link between managing customer deposit accounts and lending. These arguments come in two main varieties. The first version relates to the informational content of deposit account usage.[299] As Eugene Fama summarized the argument in 1985, "[t]he ongoing history of a borrower as a depositor provides information that allows a bank to identify the risks of loans to depositors and to monitor the loans at lower cost than other lenders."[300] It is unclear how much this remains a competitive advantage of banks if it ever really was: nonbank lenders have successfully competed against banks for centuries, and one area where Fintech initiatives *are* making signif-

296 Today, U.S. reserve requirements are 0% for the first $16 million in transaction accounts, then 3% for the next $106 million, and 10% thereafter. *See Policy Tools: Reserve Requirements*, BD. GOVERNORS FED. RSRV. SYS. (Mar. 20, 2020), https://www.federalreserve.gov/monetarypolicy/reservereq.htm [https://perma.cc/2GFH-SDZ4]; Small banks also benefit from less frequent on-site examinations. *See* 12 U.S.C. § 1820(d)(4).

297 Regarding data portability, see *infra* Section IV.H.

298 *See, e.g.*, Brunnermeier et al., *supra* note 5, at 17 ("The platform owner's disinterest in promoting interoperability with other platforms . . . conflicts with economic efficiency.").

299 For alerting the authors to this issue and suggesting data portability as a solution, the authors thank Luigi Zingales.

300 Eugene F. Fama, *What's Different About Banks?*, 15 J. MONETARY ECON. 29, 37–38 (1985).

icant strides is in honing predictive credit analytics based on a plethora of data points.[301] But in any case, data portability is a straightforward solution. The Fed could provide individual account data to lenders, with the authorization of the account holder. European banks are now required to provide this service on behalf of their depositors.[302] Although the United States has not yet established a similar mandate for private organizations, FedAccount could easily incorporate this feature.

Second, some claim that depositors' ability to withdraw on demand provides valuable discipline for managers making portfolio allocation decisions.[303] Although deposit insurance undermines this supposed disciplinary function, the runnability of *un*insured deposits and other short-term debt should, in theory, inspire prudence on the part of managers making loans. This type of "discipline," however, comes with an astronomical cost: "[M]arket discipline by depositors is merely another name for bank panics."[304] Plenty of other techniques for reducing agency costs and disciplining management avoid this catastrophic pitfall.

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301 *See, e.g.*, Julapa Jagtiani & Catharine Lemieux, *Fintech Lending: Financial Inclusion, Risk Pricing, and Alternative Information* 3 (Rsch. Dep't, Fed. Rsrv. Bank of Phila., Working Paper No. 17-17, 2017) (listing as examples of alternative data sources for Fintech lenders "information drawn from utility payments, . . . insurance claims, bank account transfers, use of mobile phones or the Internet, and other personal data such as consumer's occupation or detail about their education"); Issie Lapowsky, *The Next Big Thing You Missed: Startup's Plan to Remake Banks and Replace Credit Cards Just Might Work*, WIRED (July 8, 2014, 6:30 AM), https://www.wired.com/2014/07/affirm/ [https://perma.cc/LU4U-NWUU] (describing a Fintech startup's goal of "rewrit[ing] the definition of personal creditworthiness with its own algorithms and credit models, betting that tens of thousands of data points will say more about borrowers than a credit score").

302 *See* Council Directive 2015/2366, arts. 36, 66, 67, 2015 O.J. (L 337) 35, 79, 92–93; *see also* Keri Gohman, *The Data Portability Landscape is Changing Globally and the U.S. Financial Sector is Taking Notice*, FORBES (Oct. 11, 2017, 9:00 A.M.), https://www.forbes.com/sites/forbesfinancecouncil/2017/10/11/the-data-portability-landscape-is-changing-globally-and-the-u-s-financial-sector-is-taking-notice/?sh=560aae6c47f2 [https://perma.cc/YY3E-C88V] (noting that the European Commission's new Payment Services Directive "instructs banks to give third-party providers access to customer data so they can deliver innovation and improvement"). The European Union has also enacted a more general "[r]ight to data portability" as part of its General Data Protection Regulation. Council Regulation 2016/679, art. 20, 2016 O.J. (L 119) 1, 45.

303 *E.g.*, Charles W. Calomiris & Charles M. Kahn, *The Role of Demandable Debt in Structuring Optimal Banking Arrangements*, 81 AM. ECON. REV. 497, 497 (1991); Douglas W. Diamond & Raghuram G. Rajan, *Liquidity Risk, Liquidity Creation, and Financial Fragility: A Theory of Banking*, 109 J. POL. ECON. 287, 321 (2001); Mark J. Flannery, *Debt Maturity and the Deadweight Cost of Leverage: Optimally Financing Banking Firms*, 84 AM. ECON. REV. 320, 321–22 (1994).

304 Lowell L. Bryan, *A Blueprint for Financial Reconstruction*, HARV. BUS. REV., May–June 1991, at 73, 83.

I. Political Obstacles

FedAccount requires legislation. Although existing law empowers the Fed to lend to individuals and nonbank businesses,[305] it does not authorize the Fed to provide them with transaction accounts. The required amendments would be minor. The Fed is already authorized to maintain accounts for depository institutions as well as for the U.S. government and certain of its instrumentalities, government-sponsored enterprises, and financial market utilities.[306] This list should be expanded to include all U.S. persons,[307] and the Fed should be required to provide accounts to all qualifying applicants.[308] Additionally, existing law empowers the Fed to pay interest on balances maintained "by or on behalf of a depository institution."[309] This provision should be adjusted to empower the Fed to pay interest on balances maintained by all U.S. persons and to require it to pay a uniform rate to all its account holders.

Although the required legislative fixes may be minor, FedAccount would represent a major change in our financial and monetary architecture. Big changes in financial architecture are politically challenging. The most pessimistic view is that they are virtually impossible without a crisis.[310] But there is reason for optimism in this case. Aside from banks and certain shadow banking institutions whose existing business models FedAccount would disrupt, practically every other segment of the American economy is likely to benefit from FedAccount. FedAccount would offer a free public option in banking to all U.S. residents without increasing their taxes or compelling them to switch. It would reduce or eliminate the regressive tax on retailers and consumers implicitly created by debit card interchange fees. FedAc-

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305 12 U.S.C. § 347c.

306 *See supra* note 10.

307 Non-U.S. persons would continue to use private sector bank accounts, but U.S. subsidiaries of foreign businesses would be eligible for FedAccounts.

308 Applicants would be screened only for anti-money laundering and fraud prevention purposes; no one would be denied an account based on profitability considerations. *See supra* note 37 and accompanying text.

309 12 U.S.C. § 461(b)(12).

310 *See, e.g.*, Roberta Romano, *Regulating in the Dark and a Postscript Assessment of the Iron Law of Financial Regulation*, 43 HOFSTRA L. REV. 25, 56 (2014) (arguing that there is a four-part "'Iron Law' of major U.S. financial regulation," the first of which is that "enactment is invariably crisis driven"). *But see generally* Peter Conti-Brown & Michael Ohlrogge, Testing the Crisis-Legislation Hypothesis: Citation Indexing and the Measurement of Legislative Importance (June 9, 2020) (unpublished manuscript), https://safe-frankfurt.de/fileadmin/user_upload/editor_common/Events/Testing_the_Crisis_Legislation_Hypothesis__2020-06-09_.pdf [https://perma.cc/LAF6-ZX83] (arguing that the crisis-driven legislation theory explains the enactment of securities laws well, but struggles to explain the enactment banking laws).

count would appeal to deficit hawks because in all likelihood it would meaningfully augment the Fed's annual remittance to the Treasury by reducing economic rents. It would also appeal to institutional investors and businesses large and small because the program would greatly simplify cash management while offering higher interest payments on cash balances and faster payment speeds. Given these benefits and others, it is easy to see how FedAccount could garner widespread political support.

Conclusion

Money is an essential aspect of statecraft, and monetary dysfunction has played a persistent and crucial role in U.S. history, not to mention the histories of other countries and eras.[311] From "not worth a Continental," to the Founders' knock-down battles over a national bank, to President Jackson's Bank War and veto message, to greenbacks and the *Legal Tender Cases*,[312] to the Populist free-silver movement and William Jennings Bryan's "cross of gold" speech, to the upheavals of the Great Depression ("a tragic testimonial to the importance of monetary forces," per Friedman and Schwartz[313]), to the rise of shadow moneys, the panic of 2008, excruciating bailouts, the Great Recession, and the political convulsions that followed[314]—monetary affairs have been central to our history and politics.

A better approach is now within reach. FedAccount would reshape the sovereign "account money" system into an open access resource, just like the sovereign physical currency system. The effects would be transformative along multiple dimensions. And one final advantage deserves mention. For most Americans, the central bank is an obscure and remote institution to which they feel little if any connection. With FedAccount, people would experience this organ of government working directly for them. FedAccount could play some role, however modest, in restoring Americans' faith that the government can make a positive difference in their daily lives. This would be no small accomplishment.

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311 For a profound treatment of the emergence and fitful evolution of monetary institutions in medieval and early modern England, see generally Desan, *supra* note 154.

312 79 U.S. (12 Wall.) 457 (1871).

313 Friedman & Schwartz, *supra* note 99, at 300.

314 *See* Manuel Funke, Moritz Schularick & Christoph Trebesch, *Going to Extremes: Politics after Financial Crises, 1870–2014*, 88 Eur. Econ. Rev. 227, 233 (2016).