Reserve's balance sheet became the critical tool of saving the economy from collapse. Given the enormity of the challenge, however, the Fed's usual crisis-time operations as the lender and market maker of last resort quickly took on a qualitatively new dimension. For the first time, the Fed began massive direct purchases of corporate debt and opened a credit line for municipalities—extraordinary measures that brought into a sharp relief central banks' fundamentally *allocative* role, normally obscured from public view. On the other side of the ledger, the pandemic has reignited the movement to democratize the Fed by giving all American households and businesses direct access to central bank money. This Part examines these ongoing pressures on the Fed's balance sheet—and their potential to hasten the demise of the traditional "franchisor ledger" paradigm of central banking.

A. The Asset Side: "Whatever It Takes"

Although the COVID-19 crisis did not originate in the financial sector, the response to the crisis quickly became a matter of getting finance flowing throughout the abruptly incapacitated economic system. On March 27, 2020, Congress passed the CARES Act that, among other things, appropriated a $500 billion emergency relief package to be used by the Treasury for purposes of providing financial assistance to eligible U.S. businesses and public entities.[69] In the familiar crisis response mode, the Fed's balance sheet became the principal platform for injecting emergency relief funds into the locked-down economy. With the Treasury providing first-loss protection, the Federal Reserve established several new lending programs to facilitate the flow of credit to U.S. companies and certain public entities.[70]

Some of these facilities replicated the emergency programs used to stem the financial crisis in 2008–2009.[71] Much like in that earlier crisis, the Fed used these programs to inject liquidity into the financial system by bolstering financial institutions' balance sheets. Several facilities, however, were established for the first time and aimed to

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of-covid-19-pandemic-and-response-on-the-employment-situation-news-release.htm (last updated June 4, 2021) [https://perma.cc/MBU2-M9JS].

69. Coronavirus Aid, Relief, and Economic Security (CARES) Act, Pub. L. No. 116-136, 134 Stat. 281 (2020).

70. *See Funding, Credit, Liquidity, and Loan Facilities*, BD. OF GOVERNORS OF THE FED. RSRV. SYS., https://www.federalreserve.gov/funding-credit-liquidity-and-loan-facilities.htm (last updated Apr. 12, 2021) [https://perma.cc/9URS-XQXF] (providing detailed information on emergency lending facilities set up in response to COVID-19).

71. These include the Primary Dealer Credit Facility ("PDCF"), Commercial Paper Funding Facility ("CPFF"), Money Market Fund Liquidity Facility ("MMLF"), and Term Asset-Backed Securities Loan Facility ("TALF"). *Id.*

provide credit not to banks and other financial institutions but to a wide range of commercial businesses and state and municipal governments.

The Fed created two Corporate Credit Facilities—the Primary Market Corporate Credit Facility ("PMCCF")[72] and the Secondary Market Corporate Credit Facility ("SMCCF")[73]—to purchase qualifying corporate loans and bonds both in secondary markets and in primary issuances. Intended to help otherwise healthy U.S. companies avoid massive employee layoffs, these programs were established under Section 13(3) of the Federal Reserve Act, which governs the Fed's emergency nonbank lending.[74] The SMCCF supported market liquidity by purchasing corporate bonds of qualifying companies and exchange-traded fund shares.[75] Even more radically, the PMCCF gave U.S. corporations direct access to government funding to enable them to maintain business operations during the pandemic.[76]

In another unusual move, the Fed has established the Municipal Lending Facility ("MLF") to help state and local governments manage cash flow pressures and continue serving their communities.[77] Under this program, eligible states, cities, and various local government entities were allowed to borrow directly from the Federal Reserve, subject to certain conditions.[78] The program's strict eligibility requirements, relatively high interest rates, and other conditions significantly limited its practical use and efficacy and made it a target of significant criticism.[79] Yet, despite its limitations, the MLF marked the first time the Federal Reserve set up a high-profile credit facility to

72. *Primary Market Corporate Credit Facility*, BD. OF GOVERNORS OF THE FED. RSRV. SYS., https://www.federalreserve.gov/monetarypolicy/pmccf.htm (last updated May 10, 2021) [https://perma.cc/43KJ-Y6HG].

73. *Secondary Market Corporate Credit Facility*, BD. OF GOVERNORS OF THE FED. RSRV. SYS., https://www.federalreserve.gov/monetarypolicy/smccf.htm (last updated June 2, 2021) [https://perma.cc/LDZ5-99RL].

74. 12 U.S.C. § 343. For an analysis of the Fed's legal authority to establish these facilities, see Lev Menand, *The Federal Reserve and the 2020 Economic and Financial Crisis*, 26 STAN. J.L. BUS. & FIN. 295 (2021).

75. *FAQs: Primary Market Corporate Credit Facility and Secondary Market Corporate Credit Facility*, FED. RSRV. BANK OF N.Y., https://www.newyorkfed.org/markets/primary-and-secondary-market-faq/corporate-credit-facility-faq (last visited May 26, 2021) [https://perma.cc/EK4G-DC43]. The SMCCF purchases track a specially created Broad Market Index of eligible bonds. *Id.*

76. *Id.*

77. *Policy Tools: Municipal Liquidity Facility*, BD. OF GOVERNORS OF THE FED. RSRV. SYS., https://www.federalreserve.gov/monetarypolicy/muni.htm (last updated July 13, 2021) [https://perma.cc/XS7Z-JWGU]. The MLF was established pursuant to the Fed's authority under Section 13(3) of the Federal Reserve Act and became operational on May 26, 2020. *See id.*

78. *Id.*

79. *See* Robert Hockett, *Community QE – Illinois Signs On, and Eligibility Further Expands, but 'Penalty Rates' Still Have to Go*, FORBES (June 5, 2020, 9:46 AM), https://www.forbes.com/sites/rhockett/2020/06/05/community-qe—illinois-signs-on-and-eligibility-further-expands-but-penalty-rates-still-gotta-go/#69c4f9d218f2 [https://perma.cc/F5W2-G7YN].

support municipal bond markets and effectively put its own balance sheet behind state and local governments.[80]

Collectively, the Fed's multiple emergency programs—doing "whatever it takes" to prevent an economic disaster—had a tremendous quantitative impact on its balance sheet.[81] By June 1, 2020, the Fed's total assets surpassed $7 trillion.[82] What is even more important for present purposes, however, is the qualitative shift in the Fed's asset portfolio, especially as a result of its direct purchases of corporate and municipal bonds. In effect, these recent changes in the composition of the Fed's assets reflect the ongoing changes in the role of a modern central bank not only as the nation's primary money modulator but also, increasingly, as its credit allocator. Put simply, the latest crisis made it no longer possible to ignore the fact that the central bank's balance sheet is an indispensable, integrated platform for ensuring the functioning of the modern economy—and not simply the back-office support system for private franchisee-banks.

B. The Liability Side: What's Next?

To date, the qualitative changes on the asset side of the Fed's balance sheet have not been accompanied by similarly significant shifts in the composition of its liabilities. Nevertheless, the pandemic has created a significant new opening for potentially transformative changes on the liability side of a modern central bank's balance sheet. In particular, the COVID-19 pandemic pushed two ideas into the mainstream policy debate: (1) the issuance of CBDC; and (2) allowing individuals to hold money on deposit directly at the central bank.

While intimately related, these two ideas are typically framed in conceptually and normatively different terms and addressed to different audiences. Thus, the CBDC discussions are confined primarily to the technocratically minded central bankers and economic experts concerned with the efficacy of monetary policy tools in the era of digital finance.[83] By contrast, the "central banking for all" idea is based on an

80. *Id.* (using the term "Community QE" to emphasize this effect).

81. Neil Irwin, *Fed Chair to Congress: Do Whatever It Takes to Keep the Economy from Collapse*, N.Y. TIMES: THE UPSHOT (Apr. 29, 2020), https://www.nytimes.com/2020/04/29/upshot/fed-powell-economy-pandemic.html [https://perma.cc/3F59-3S8E]. This phrase was made famous in 2012 by Mario Draghi. Ian Wishart, *ECB 'Will Do Whatever It Takes' to Save the Euro*, POLITICO (July 26, 2012, 9:53 AM), https://www.politico.eu/article/ecb-will-do-whatever-it-takes-to-save-the-euro/ [https://perma.cc/9ZVJ-6U9E].

82. BD. OF GOVERNORS OF THE FED. RSRV. SYS., *supra* note 66.

83. For a summary of the CBDC debate, see Dirk Niepelt, *Digital Money and Central Bank Digital Currency: An Executive Summary for Policymakers*, VOXEU (Feb. 3, 2020),

overtly political appeal to the goals of financial inclusion and democratizing access to financial services.[84]

Issuing a new form of digitized central bank money, or CBDC, became an increasingly hot topic of policy discussion as a result of the rapid rise in the volume and popularity of privately issued cryptocurrencies.[85] The success of Bitcoin paved the road for the subsequent emergence of numerous crypto-assets purporting to challenge the supremacy of sovereign money.[86] Recent growth of "stablecoins," privately issued crypto-assets whose value is explicitly pegged to one or more sovereign currencies, presents a particularly tangible challenge in this respect.[87] Not surprisingly, Facebook's plans to launch its own stablecoin, Libra (later renamed Diem),[88] immediately heightened the salience of CBDC on central banks' agendas.[89]

The ongoing debate among central bankers and economists is focused on the range of specific design options, both with respect to the CBDC itself and the infrastructure for its provision and use.[90] Functionally, specific CBDC can differ in the degree of privacy and anonymity, availability around the clock or during limited times, and other user convenience features. Economically, CBDC may be universally available ("retail" or "general-purpose") or restricted to only

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https://voxeu.org/article/digital-money-and-central-bank-digital-currency-executive-summary [https://perma.cc/SJ6G-P4H2].

84. *See infra* notes 109–111 and accompanying text.

85. COMM. ON PAYMENTS & MKT. INFRASTRUCTURES & MKTS. COMM., BANK FOR INT'L SETTLEMENTS, CENTRAL BANK DIGITAL CURRENCIES 3 (Mar. 2018), https://www.bis.org/cpmi/publ/d174.pdf [https://perma.cc/HP7V-ET8K].

86. For more on Bitcoin and other crypto-assets, see PRIMAVERA DE FILIPPI & AARON WRIGHT, BLOCKCHAIN AND THE LAW (2018); NATHANIEL POPPER, DIGITAL GOLD (2015); PAUL VIGNA & MICHAEL J. CASEY, THE AGE OF CRYPTOCURRENCY: HOW BITCOIN AND DIGITAL MONEY ARE CHALLENGING THE GLOBAL ECONOMIC ORDER (2015); and KEVIN WERBACH, THE BLOCKCHAIN AND THE NEW ARCHITECTURE OF TRUST (2018).

87. *See* Mitsutoshi Adachi, Matteo Cominetta, Christoph Kaufmann & Anton van der Kraaij, *A Regulatory and Financial Stability Perspective on Global Stablecoins*, EUR. CENT. BANK: MACROPRUDENTIAL BULL. (May 5, 2020), https://www.ecb.europa.eu/pub/financial-stability/macroprudential-bulletin/html/ecb.mpbu202005_1~3e9ac10eb1.en.html [https://perma.cc/XK5X-YY2R]; Douglas Arner, Raphael Auer & Jon Frost, *Stablecoins: Risks, Potential and Regulation* (Bank for Int'l Settlements, Working Paper No. 905, 2020), https://www.bis.org/publ/work905.pdf [https://perma.cc/6HNP-RE2J].

88. *See* Libra Association, *White Paper*, DIEM (Apr. 2020), https://www.diem.com/en-us/white-paper/ [https://perma.cc/N2WX-MXKC] (detailing Facebook's plan).

89. Issaku Harada, *Digital Yuan Nears Launch as China Sweats over Libra*, NIKKEI ASIA (Dec. 3, 2019, 6:37), https://asia.nikkei.com/Business/Markets/Currencies/Digital-yuan-nears-launch-as-China-sweats-over-Libra [https://perma.cc/B3TZ-D4V8]; Tim Alper, *Digital Yuan Rollout Is 'Response to Facebook's Libra,'* CRYPTONEWS (May 26, 2020), https://cryptonews.com/news/digital-yuan-rollout-is-response-to-facebook-s-libra-6635.htm [https://perma.cc/22VD-E3BW].

90. *Central Bank Digital Currency: Opportunities, Challenges, and Design*, BANK OF ENG. 11 (2020), https://www.bankofengland.co.uk/-/media/boe/files/paper/2020/central-bank-digital-currency-opportunities-challenges-and-design.pdf [https://perma.cc/6ATU-RMDB].

referendum on "Vollgeld" (sovereign money) underscored the growing political appeal of such proposals.[114]

In U.S. legal scholarship, both elements of Tobin's original idea—giving individuals access to central bank accounts and making them available through USPS offices—provided important conceptual framing for the post-2008 push to broaden financial inclusion.[115] The best-known recent proposal to institute FedAccounts was advanced in 2018 by Morgan Ricks, John Crawford, and Lev Menand.[116] Their proposal envisions FedAccounts as a cheaper and more efficient alternative to, rather than an effective replacement for, private deposit accounts offered by commercial banks. As proposed, FedAccounts would have transactional functionalities of private bank accounts (save for the overdraft coverage) but pay higher interest on deposits and avoid predatory charges. They would provide a "money-and-payments safety net" for the unbanked or under-banked American households and "crowd out unstable, privately issued deposit substitutes."[117] Overall, the authors make a thoughtful and convincing case that ending banks' privileged access to the Fed's balance sheet would have a wide range of salutary effects.

Notably, Ricks et al. frame their proposal as a variation on the public banking idea, rather than a straightforward CBDC plan.[118] Ultimately, however, these parallel conversations—one on CBDC and another one on FedAccounts—run into the same conceptual problem. In

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Fedcoin, MONEYNESS (Oct. 19, 2014), http://jpkoning.blogspot.com/2014/10/fedcoin.html [https://perma.cc/TN2H-2UHA].

114. *See* Press Release, Vollgeld Initiative, Campaign for Monetary Reform – News from Switzerland (June 10, 2018), https://www.vollgeld-initiative.ch/english/ [https://perma.cc/8KC5-RW85]. The Vollgeld plan sought to eliminate money creation by private banks and to render all money fully sovereign. *Id.* Just over a quarter of Swiss voters supported the plan. *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/Y5DB-ANBX].

115. For a recent iteration of the postal banking proposal, see Postal Banking Act, S. 4614, 116th Cong. (2020). *See also* BARADARAN, *supra* note 6, at 225 ("One obvious option for public banking would be to reinvigorate postal banking and use the expansive network of post offices across the country."); OFF. OF INSPECTOR GEN., U.S. POSTAL SERV., THE ROAD AHEAD FOR POSTAL FINANCIAL SERVICES (May 2015), https://www.uspsoig.gov/sites/default/files/document-library-files/2015/rarc-wp-15-011_0.pdf [https://perma.cc/R9LS-FVX6].

116. Ricks et al., *supra* note 7.

117. *Id.* at 1–2. Importantly, however, their proposal does not address potential new forms of arbitrage and private over-leveraging likely to arise under the new regime, where fully "safe" FedAccounts coexist with private bank deposit accounts. *Cf. infra* Part V.

118. Ricks et al., *supra* note 7, at 7–8. In a more recent iteration of their proposal, the FedAccounts idea is introduced as a superior form of CBDC that simply bypasses the "digital currency" hype. *See* John Crawford, Lev Menand & Morgan Ricks, *FedAccounts: Digital Dollars*, 89 GEO. WASH. L. REV. 113 (2021). This new framing acknowledges the originally downplayed conceptual link without appreciably altering the substance of their vision, which remains "philosophically harmonious" with postal banking proposals. *Id.* at 158.

both cases, the crucial question is: What would, or *should*, happen on the *asset side* of the central bank balance sheet, in order to accommodate the proposed expansion of central bank liabilities?

This question comes into particularly sharp relief in a scenario where CBDC (whether or not in the form of FedAccounts) fully replaces commercial bank deposits. Part of the reason for that is the sheer quantitative impact of this shift. As a recent Bank of England paper put it, "In this scenario there may be a shortage of high-quality assets to back an enlarged central bank balance sheet, and therefore the central bank may have to broaden the range of assets purchased or lent against."[119]

The core of the problem, however, is not merely the magnitude of portfolio expansion—it's the composition of the central bank's newly expanded portfolio. Deciding which specific assets to purchase is an inherently political act: it makes immediately transparent the fact that, behind the veil of technocratic neutrality, central banks' investment choices have immense distributional consequences.[120] Perhaps not surprisingly, most CBDC proposals either leave the composition question unanswered or reduce it to a simple quantitative recalibration of the traditional central bank asset portfolio. The latter typically involves increased central bank lending to private banks (to replace their lost deposits) and open-market purchases of high-quality public and private debt securities.[121]

The effect of this framing is to show that measures involving CBDC issuance or creation of FedAccounts need not have a significant impact on the overall structure and operation of the financial system.[122] Tactical considerations aside, this approach reflects the same underlying preference for incremental change that drives—and complicates—the ongoing discussions of CBDC design.[123] From this perspective, the existing proposals seem to be caught in a fundamentally normative dilemma: they embrace the idea of radically democratizing access to central bank money, while leaving the rest of the finance franchise system structurally intact. This underlying normative commitment, in turn, limits the scope of potential solutions to the asset-side problem arising in connection with both CBDC and

119. BANK OF ENG., *supra* note 90, at 37–38.

120. *See supra* Part II.A.

121. These include government debt instruments and highly rated corporate bonds. *See* Ricks et al., *supra* note 7.

122. This excludes the obvious change in banks' funding sources as they shift from deposits to central bank borrowing. That shift, however, merely makes explicit the already existing implicit government backing of private banks' liabilities. Without more, this shift is not a fundamental structural change. *See id.*

123. *See supra* notes 90–100 and accompanying text.

FedAccounts. As a result, the full structural implications and transformative potential of their advocated liability-side change remain unexplored and unappreciated.

Overcoming these limitations requires a deeper, deliberately unified approach to democratizing the central bank balance sheet. Today's technology promises to revolutionize not just the structure of the Fed's liabilities but the entire relational dynamics between the Fed and the American public. These new dynamics will allow for a qualitatively different—more nuanced, proactive, and multidimensional—mode of conducting monetary policy, with the FedAccount interest rate being only one of many novel modulatory tools at the Fed's disposal.

Even more importantly, these new relational dynamics will fundamentally alter the normative context in which the Fed makes its *investment* decisions. In the post-COVID world, it is already impossible to deny the Fed's critical role in direct credit allocation. Dramatically expanding the size and changing the structure of the Fed's liabilities will create a crucial opportunity to re-envision and redirect its credit-allocation power in qualitatively new ways. To take full advantage of this opportunity, we need to think about what that may involve—and how the Fed's unique ability to act as the nation's ultimate portfolio manager can be utilized to the maximum public benefit.

The remainder of the Article tackles these important questions.

III. REFORMING THE LIABILITY SIDE: PUBLIC ACCESS AND MONETARY POLICY

Beginning with the liability side of the central bank balance sheet, this Article contemplates the issuance of general-purpose CBDC (the "digital dollar") and concurrent migration of all transaction deposit accounts from private banks to the Federal Reserve. Focusing on the ultimate "end-state" whereby central bank accounts fully replace—rather than uneasily coexist with—private bank deposits, the Article explores the full range of new monetary policy options the proposed structural shift would enable.

A. The Proposal: FedAccounts as a Tool of Monetary Policy

As discussed above, the current structure of the Federal Reserve's liabilities reflects the underlying hierarchical organization of the modern "franchise finance." Currently, only banking institutions are allowed to hold non-defaultable central bank money in the form of

special reserve accounts.[124] In today's interconnected and technology-driven world, however, this hard-wired structural separation of central banks from the vast majority of real economic actors is becoming increasingly inefficient and hard to justify.

The single most effective solution to this problem is to reform the composition of the Fed's liabilities by replacing commercial bank reserve accounts with universally available deposit accounts.[125] The core idea here is simply to allow all U.S. citizens and lawful residents, local governments, nonbanking firms, and nonbusiness entities to open transactional accounts directly with the Federal Reserve, thus bypassing private depository institutions. In this sense, it is a variation on the familiar FedAccounts—or FedCoin, "digital dollar wallets," etc.—theme.[126]

In principle, FedAccounts can be made available as an alternative to bank deposit accounts, upon a person's request.[127] As explained below, however, the more effective option would be to transition *all* deposits to the Fed.[128] Functionally, all FedAccounts will be essentially identical. For purely administrative purposes, however, it would be advisable to differentiate among "individual" and "entity" accounts. For U.S. citizens, Individual FedAccounts would be opened automatically upon birth or naturalization. These accounts would also be credited automatically with regularly received federal benefits: social security payments, tax refunds, and all other disbursements that depend on one's citizenship status.[129] For qualifying resident aliens, Individual FedAccounts would be opened and closed upon request, rather than automatically, but otherwise would function in the same manner.[130] Entity FedAccounts could also be administratively divided into separate categories, depending on whether the holder is a government unit, a nonprofit organization, or a business entity incorporated or operating in the United States.

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124. *See supra* Part I.B.1.

125. *See supra* notes 109–118 and accompanying text.

126. *See supra* Part II.B.

127. As described above, the existing proposals to open the Fed's balance sheet to nonbank depositors often implicitly assume this optionality. *See, e.g.*, Ricks et al., *supra* note 7. For a discussion of potential systemic risks associated with it, see *infra* notes 149–153 and accompanying text.

128. *See infra* notes 152–153 and accompanying text.

129. These disbursements also include any additional public benefits that may exist in the future: periodic "dividends" from sovereign wealth funds, "baby bonds," and so forth.

130. Establishing specific eligibility criteria for resident aliens' access to FedAccounts would require careful consideration of multiple factors, including racial and economic justice, national security, immigration policy goals, and so on.

This internal classification will simplify and optimize federal payments—including economic stimulus benefits or crisis-time financial aid—to all entitled recipients. The inherent programmability of the digital dollar would enable the Fed to manage these, as well as any other, payments in real time and with maximum flexibility, capturing the necessary gradations in the amounts or timing of individual transfers.[131]

Just like today's bank reserve accounts, all FedAccounts would earn interest.[132] The interest rate on these accounts would serve as an important tool of the Fed's monetary policy, setting an effective floor in the overall interest rate structure. As widely acknowledged, such a direct rate-setting ability would dramatically increase the Fed's efficacy and flexibility in managing the economy-wide costs of borrowing.[133]

Yet, dynamically adjusting the cost of money rentals via manipulation of interest on FedAccounts is not the only—or even the most powerful—new monetary policy tool that the proposed reforms will put on the table. Far more importantly, offering deposit accounts to individuals and entities will enable the Fed to modulate the aggregate supply of money and credit by directly crediting and debiting the accounts of all participants in economic activity, without interposing intermediary-banks.

In basic terms, the Fed will credit all eligible FedAccounts when it determines that it is necessary to expand the money supply in order to stimulate economic activity and ensure better utilization of the national economy's productive capacity. In the economic literature, this form of unconventional (by present standards) monetary policy is commonly known as "helicopter drop" or "QE for the people."[134] The

131. *See* Wong & Maniff, *supra* note 93 (discussing programmability of digital money).

132. *See supra* notes 46–48 and accompanying text.

133. *See supra* note 94 and accompanying text.

134. For a small sample of academic and popular discussions of "helicopter money" and "QE for the people" proposals, see Richard Baldwin, *Helicopter Money: Views of Leading Economists*, VOXEU (Apr. 13, 2016), https://voxeu.org/article/helicopter-money-views-leading-economists [https://perma.cc/S5FM-AC62]; Ben S. Bernanke, *What Tools Does the Fed Have Left? Part 3: Helicopter Money*, BROOKINGS: BEN BERNANKE'S BLOG (Apr. 11, 2016), https://www.brookings.edu/blog/ben-bernanke/2016/04/11/what-tools-does-the-fed-have-left-part-3-helicopter-money/ [https://perma.cc/9VCC-M935]; Willem H. Buiter, *The Simple Analytics of Helicopter Money: Why It Works – Always*, ECONOMICS (June 13, 2014), http://www.economics-ejournal.org/dataset/PDFs/discussionpapers_2014-24.pdf [https://perma.cc/4L6E-DP54]; Anatole Kaletsky, *How About Quantitative Easing for the People?*, REUTERS, https://web.archive.org/web/20200225014828/http:/blogs.reuters.com/anatole-kaletsky/2012/08/01/how-about-quantitative-easing-for-the-people/ (last updated Aug. 2, 2012) [https://perma.cc/84Dk-33F5]; and Martin Wolf, *The Case for Helicopter Money*, FIN. TIMES (Feb. 12, 2013), https://www.ft.com/content/9bcf0eea-6f98-11e2-b906-00144feab49a [https://perma.cc/U776-5HRC]. The "helicopter" colloquialism originates with Milton Friedman, *The Role of Monetary Policy*, 58 AM. ECON. REV. 1 (1968). Some thirty years earlier, Keynes used

obvious benefit of this tool is that it solves the problem of a central bank "pushing on a string" in a "liquidity trap" situation.[135] The principal criticism of this approach, on the other hand, is that it fundamentally alters central banks' functions and puts them in charge of "redistribution decisions that are fiscal in nature."[136] In contrast to conventional monetary expansion through crediting banks' reserve accounts in exchange for bonds or other assets, helicopter drops do not symmetrically increase the asset side of the central bank's balance sheet.[137] Another sense in which helicopter drops are considered dangerously asymmetrical is that, once new money is credited to people's accounts, it creates a permanent expectation of never having to part with it. It is, therefore, seen as disabling monetary policy as a tool of fighting inflationary pressures.[138]

These familiar criticisms notwithstanding, the "helicopter" mode of monetary policy can be both feasible and desirable if carefully designed and thoughtfully implemented. While many specific details of this regime's practical operation are bound to take shape in the implementation phase, a few basic design choices are worth outlining here.

Thus, with respect to monetary expansion management, it would be necessary to set the criteria for (1) deciding which accounts will be eligible to receive automatic credits, and (2) determining the absolute and/or relative amounts of such credits to various types of accounts.

On the eligibility issue, one option is to make every deposit account held at the Fed eligible for credit. For practical reasons, however, it might make sense to restrict unconditional, or automatic, helicopter drop measures only to (1) Individual FedAccounts of U.S. citizens, and (2) Entity FedAccounts of local governments and governmental units. Other FedAccounts may be included in the program subject to certain conditions. For example, private business entities may have to commit to spending the credited funds on "real" goods and services rather than speculative financial-asset purchases.

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the metaphor of burying money in bottles. *See* JOHN MAYNARD KEYNES, THE GENERAL THEORY OF EMPLOYMENT, INTEREST AND MONEY (1936).

135. *See supra* note 53 and accompanying text.

136. Kevin Dowd, *Against Helicopter Money*, 38 CATO J. 147, 162 (2018).

137. *See, e.g.*, Lucrezia Reichlin, Adair Turner & Michael Woodford, *Helicopter Money as a Policy Option*, VOXEU (Sept. 23, 2019), https://voxeu.org/article/helicopter-money-policy-option [https://perma.cc/65E7-PNTR] (discussing the pros and cons of "helicopter money").

138. *See id.* For a fascinating account of the use of "helicopter money" during the famine and plague in seventeenth-century Venice, see Charles Goodhart, Donato Masciandaro & Stefano Ugolini, *Pandemic Recession, Helicopter Money and Central Banking: Venice, 1630* (Ctr. for Econ. Pol'y Rsch., Discussion Paper No. DP15715, 2021).

Employee retention and continuing provision of work benefits could be another important condition in this respect. Individuals, on the other hand, may qualify if they are permanent or long-term U.S. residents or if they demonstrate special need of funds.[139]

On the amount issue, there is again a range of potential choices. One option is to credit the same amount to each eligible account. This would be the easiest to execute from a purely logistical viewpoint. To maximize the economic stimulus of the helicopter drops, however, it may make more sense to have a progressive scale for crediting accounts of individuals, so that less wealthy U.S. citizens and eligible residents receive proportionately higher amounts of money. This differentiation would channel more funds to the people who both need it most and will be more likely to spend the money on daily purchases.

It would also make sense to credit Entity FedAccounts on a higher scale, to reflect the fact that firms and other entities typically run significantly larger balance sheets than most individuals do. Generally, however, such decisions should depend on the specific problems that particular uses of this option aim to resolve. Thus, a "helicopter drop" in response to serious but temporary distress in specific industrial sectors might call for targeted crediting of a particular set of accounts, one in response to a pandemic or a regional disaster might target a different set, and so forth.

Implementing a contractionary monetary policy by debiting FedAccounts, in turn, presents a different set of ex ante institutional choices aiming to minimize the economic and political fallout from what is likely to be perceived as the government "taking away" people's money.[140] This tool is to be reserved only for extreme and rare circumstances, when the Fed is unable to control inflation by raising interest rates and deploying its new asset-side tools, discussed below.[141] It is nevertheless important to have a mechanism in place for draining excess liquidity from these accounts with minimal disruption of productive activity.

One potential approach could be to set up each account as a two-tiered structure, in a manner functionally similar to the familiar combination of a checking and a savings account. The first tier—a "transaction sub-account"—would be used for making and receiving payments, including regular governmental disbursements like tax refunds, social security benefits, and so forth. The second tier—a

139. This is merely a broad-stroke sketch of potential approaches to these inevitably complex choices.

140. *See supra* notes 137–138 and accompanying text.

141. *See infra* Part IV.

"reserve sub-account"—would be explicitly reserved for use as the destination account for the receipt, transfer, and holding of funds designated by the Fed as subject to a specific monetary policy action.

If and when the Fed injects monetary base into the system, each reserve sub-account would be credited with the appropriate "helicoptered" amount. If and when the Fed seeks to drain money from the system, the appropriate amount would be transferred from the transaction sub-account to the same holder's reserve sub-account, where it would be effectively escrowed until the Fed ends its tightening policies. These temporarily "reserved" funds would pay a higher interest than the regular interest paid by the Fed on money held in transaction sub-accounts. Importantly, raising this reserve interest rate would enable the Fed to incentivize depositors to move more of their money from transaction into reserve sub-accounts voluntarily.

Strategic use of this tool, therefore, may decrease the need for the mandatory "reserving" of people's money, which would also help to counteract negative perceptions of this policy.[142] In effect, the tightening of the money supply would be achieved through a compulsory but economically attractive *investment scheme*.[143]

In periods when the Fed is not actively pursuing anti-inflationary monetary policies, account holders would be free to draw down on their reserve sub-accounts, which would pay the same rate of interest as the associated transaction sub-accounts. During such periods, the key would be to reduce potentially negative effects of the public's uncertainty about the Fed's future monetary policy decisions. Thus, to avoid or minimize unnecessarily harsh liquidity shocks, especially for small businesses and vulnerable individuals, it would be important for the Fed to communicate its intentions clearly and continuously, with as much advance warning as possible.[144] It would also make sense to exempt from mandatory debiting by the Fed accounts of (1) individuals with incomes or assets below a certain level,

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142. To a great extent, these negative perceptions reflect Americans' notoriously generalized and ideologically driven mistrust of the government. Thoughtfully designing and implementing a coherent money-modulation strategy would reshape the context in which people would think about the Fed's credits and debits of their accounts.

143. In economic terms, it would be similar to investing in the high-interest U.S. Treasury bond. Curiously, Keynes advocated functionally similar measures as part of his plan to prepare Britain for a long war with Nazi Germany. *See* JOHN MAYNARD KEYNES, HOW TO PAY FOR THE WAR (1940).

144. More broadly, opening the Fed's balance sheet to the general public would require a fundamental change in the Fed's current mode of communicating its monetary policy decisions and goals. Among other things, the Fed's communication process will need to be more seamlessly continuous, clear, and accessible than it is today. For a general discussion of the importance of the Fed's communication for monetary policy, see Peter Conti-Brown, Yair Listokin & Nicholas R. Parrillo, *Toward an Administrative Law of Central Banking*, 38 YALE J. ON REGUL. 1, 38–41 (2021).

(2) local governments and their agencies, and (3) certain qualifying small businesses.[145]

Undoubtedly, there are numerous additional details that will need to be worked out before this system is put in place.[146] The purpose of this discussion is to outline in principle how the proposed restructuring of the Fed's liabilities would enable it to conduct both expansionary and contractionary monetary policy in a far more direct and effective manner than it is able to do today. Of course, this restructuring would also have a wide range of other implications, both for the Fed's own balance sheet and for the financial system more generally. These implications are discussed in greater detail below.[147] The remainder of this Part focuses on the more immediate institutional design issues arising in connection with the creation of FedAccounts.

B. Transforming the Core of the Franchise: Institutional Design Issues

The proposed reform of the Fed's liabilities raises numerous questions, most of which are best left for the implementation phase. It is nevertheless helpful to highlight a few key design choices that go directly to the core of the proposed change in the current finance franchise arrangement.[148]

From this perspective, the most important set of choices concerns the role of private financial firms, including banks, in the newly redesigned and digitized money-and-payments system. As discussed above, most existing CBDC proposals assume that private banks will continue to offer deposit accounts, either exclusively or

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145. An exemption for local governmental units is sensible and necessary because of their ongoing obligations to provide critical public services and social assistance to disadvantaged communities. Exemptions for small businesses, however, should be restricted only to cases in which the mandatory debiting of their accounts would cause undue hardship to their employees or communities.

146. This includes establishing specific procedures for making the necessary decisions in a fair and transparent manner and in full compliance with the applicable legal and administrative requirements.

147. *See infra* Parts IV–V.

148. This Article deliberately leaves out a number of design issues that are either sufficiently covered in the existing literature or not critical in advancing the Article's core claims. It is easy to stipulate, for example, that (1) the money in FedAccounts would be freely convertible into physical cash (which is important for privacy and inclusion reasons); (2) cash would be easily accessible through ATMs or at physical service locations (potentially including USPS branches); (3) FedAccounts would not be subject to any fees (but would not allow overdrafts); and (4) real-time payments would be available around the clock. The existing literature covers these and related issues in sufficient detail. *See supra* Part II.B. For similar reasons, the Article does not trace the mechanics of payments flows in the FedAccounts system, nor does it get into detailed discussions of distributed ledger technology ("DLT") that can be used to run it.

alongside the central bank.[149] These choices are typically justified—explicitly or, more often, implicitly—by appeal to pragmatic considerations. Keeping private bank deposits would minimize potential structural disruption to the existing system, thus reducing political opposition and easing the transition to the new CBDC regime. Continuing to outsource at least some deposit-taking to private banks would also reduce the public cost and administrative burden on the central bank. Private actors are often said to be better positioned to undertake the consumer-facing activity associated with CBDC, which includes a wide variety of things ranging from customer service to compliance with "Know Your Customer" ("KYC") and anti–money laundering rules.[150] Finally, dealing with private banks may assuage depositors' concerns about potential state surveillance of their accounts.[151]

At the same time, allowing private banks to continue accepting deposits in competition with the central bank potentially creates significant problems from the perspective of systemic stability. Universal availability of fully sovereign digital money will make it much easier for all bank depositors to "run to safety" in real time, thus taking the classic bank run problem to the next level. Furthermore, private banks—particularly, large ones nestled inside diversified financial conglomerates—will have strong incentives to offer depositors not only higher interest rates on their accounts but also a broader suite of high-risk, high-return financial products.[152] While it is difficult to predict what specific forms this risk arbitrage might take, past experience shows that their appearance is virtually certain.[153] In effect,

149. *See supra* Part II.A. Notably, Ricks et al. also envision the continuing availability of bank deposit accounts alongside FedAccounts. *Supra* note 7.

150. BANK FOR INT'L SETTLEMENTS, ANNUAL REPORT 27–29 (June 2021), https://www.bis.org/about/areport/areport2021.pdf [https://perma.cc/W9VF-XM85] (suggesting that private actors are best equipped to perform operational tasks associated with "customer-facing activit[ies]").

151. *See* Sarah Allen et al., *Design Choices for Central Bank Digital Currency* 45 (Brookings, Working Paper No. 140, July 2020), https://www.brookings.edu/wp-content/uploads/2020/07/Design-Choices-for-CBDC_Final-for-web.pdf [https://perma.cc/6R7M-TKXD] ("In cultures where banking customers are more inclined to trust private companies than governments with their personal information, this form of role separation for privacy may be reasonable and useful, however limited."); Macro Musings, *The Future of Digital Fiat Currency*, MERCATUS CTR. (Feb. 11, 2019), https://www.mercatus.org/bridge/podcasts/02112019/future-digital-fiat-currency [https://perma.cc/YT2H-J2M5] (David Beckworth and Rohan Grey discussing digital currency and privacy issues).

152. This is a particularly salient possibility with respect to banks' institutional clients, though it is difficult to rule out the possibility of riskier products being marketed, perhaps indirectly, to retail depositors as well.

153. In fact, the present ubiquity of bank demand deposits is a product of successful arbitrage by state-chartered banks in response to the creation of the U.S. national bank charter in 1863–

introducing FedAccounts as merely an option on top of the current "finance franchise" arrangement may greatly exacerbate the fundamental dysfunctions built into it.

This Article, accordingly, advocates full migration of demand deposits onto the Fed's balance sheet. Importantly, however, some private financial institutions may still be able to assist the Fed with administering FedAccounts, if doing so is deemed to be in the public interest.

For example, community banks and small credit unions could be licensed to offer "pass-through FedAccounts" on the same terms as, and directly backed by, deposits at the Federal Reserve.[154] These licensed "community banking institutions" ("CBIs") would operate physical branches and ATMs on the Fed's behalf and receive a fee for their services.[155] In addition, they would be able to offer basic noncheckable savings accounts and certificates of deposit, paying interest at rates exceeding the FedAccount rates.[156] To generate extra income, CBIs may also be allowed to provide their customers with affordable investment advice and basic financial and account management services.

Ultimately, however, CBIs would be integrated in the Fed's new payments system for reasons of public policy, as crucially important local providers of essential banking services to middle-class and especially low-income and currently under-banked communities across the United States.[157] Their branches would effectively function as the

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1864. *See History of the Federal Reserve*, FED. RSRV. EDUC.ORG (last visited Sept. 12, 2021), https://www.federalreserveeducation.org/about-the-fed/history [https://perma.cc/F5QP-JMCC].

154. This parallels the approach proposed in Senator Brown's bill. Each depositor of a licensed community banking institution would be entitled to the proportional amount held by the institution in its "master FedAccount," on the 100 percent reserve basis. Only entities below a specified asset-size threshold would be eligible for the license. *See supra* notes 109–111 and accompanying text.

155. Various state and local "public banks" may also qualify for the CBI license. For more on the "public bank" idea, see Esra Nur Ugurlu & Gerald Epstein, *The Public Banking Movement in the United States: Networks, Agenda, Initiatives, and Challenges* 1 (Pol. Econ. Rsch. Inst., Working Paper No. 538, 2021); and *Research/Legislation*, PUB. BANKING INST., https://www.publicbankinginstitute.org/research-legislation/ (last visited June 13, 2021) [https://perma.cc/X8DQ-N38K].

156. Broader access to simple and safe savings products is a critical element of financial inclusion. To ensure that CBIs serve the needs of low- and middle-income retail customers, it would be desirable to establish amount limits on these savings products (no "jumbo CDs"). CBIs would be allowed to invest funds deposited in these non-transactional accounts in a wider range of "safe" assets, including Treasury and agency securities, tax-exempt municipal bonds, and certain other highly liquid financial instruments (including bonds issued by the National Investment Authority). *See infra* Part IV.A.2.

157. To maximize these public benefits, CBIs would also be able to engage in community lending activities. Funding for CBI loans, however, would not come from any deposits these institutions manage or issue. Instead, CBIs would be eligible to borrow from the Fed by accessing its New Discount Window facility, proposed *infra* Part IV.A.1.

Fed's representative offices, thus giving CBIs' "franchisee" status a very direct meaning.[158] These new franchisee-institutions would not engage in money creation. Instead, they would utilize their unique understanding of local economic conditions and community needs to help the Fed with the day-to-day administration of FedAccounts.

Outside of this particular context, the extent of private firms' participation in the provision of payments and related transactional services becomes a matter of technological, as much as institutional, design.

As a general matter, moving all demand deposits onto the central bank's balance sheet renders many complex technological choices currently associated with CBDC design fundamentally superfluous.[159] This "direct CBDC" option enables the Fed to internalize all payments by simultaneously crediting and debiting transacting parties' accounts on its own digital ledger—just like it currently does with respect to interbank payments.[160]

Within this streamlined architecture, it may nevertheless be desirable to allow private "payment service providers" ("PSPs") to perform certain "front-end" customer-facing functions, such as KYC checks and user-friendly mobile applications for initiating or receiving payments.[161] By providing valuable overlay services—financial record-keeping, personalized account management, and so forth—these specially licensed PSPs can enhance FedAccount user experience, without imposing additional costs on the Fed.[162]

At the same time, however, introducing this new institutional layer could create new risks for depositors and complicate the Fed's

158. This means that keeping CBIs in business, especially in low-income and underserved communities, may require public subsidy (reflected in service fees). To the extent these institutions' size and permissible activities are subject to explicit legal limitations, this particular form of subsidy should not be problematic. Accordingly, CBIs will be subject to macroprudential regulation and supervision, appropriately modified for their business and risk profiles.

159. *See supra* notes 90–98 and accompanying text.

160. For diagrams illustrating the basic mechanics of payments flows under different CBDC arrangements, including what they call the "direct CBDC" model advocated in this Article, see Raphael Auer & Rainer Böhme, *The Technology of Retail Central Bank Digital Currency*, BANK FOR INT'L SETTLEMENTS Q. REV., Mar. 2020, at 85, 89.

161. *See* BANK OF ENG., *supra* note 90, at 25–33. The COVID experience makes it particularly important to enable FedAccount holders to use mobile apps for accessing and managing their finances. *See* John C. Pitts, *Survey Finds That Fintech Has Been a Lifeline During COVID-19*, PLAID: BLOG (Sept. 15, 2020), https://blog.plaid.com/2020-fintech-effect-covid/ [https://perma.cc/NX94-FQR2].

162. In fact, the Fed could receive fee revenues from PSPs allowed to connect to its ledger. To access the Fed's ledger via an Application Programming Interface (API), PSPs would have to meet security, resiliency, and other requirements. The Fed could either license PSPs itself or rely on the licensing scheme administered by another federal agency, such as the Federal Trade Commission ("FTC") or the Consumer Financial Protection Bureau ("CFPB").

ability to use its new tools of monetary policy, discussed above.[163] Accordingly, it is critical that PSPs are required to maintain a FedAccount for each user, so that all payments among their users are processed and recorded directly on the Fed's ledger.[164] This approach would preclude PSPs from engaging in unauthorized deposit-taking activities and protect the overall integrity of the FedAccounts system. As long as the deposit relationships remain with the Fed, adding a layer of private service delivery contracts would not expose depositors to the risk of any individual PSP's insolvency.[165] Without the need for prudential oversight, PSPs would be regulated only under the relevant consumer protection scheme.[166]

Of course, the present discussion purposely brackets a number of potentially important technical-design issues. Thus, it assumes that the Fed would have the necessary technological capacity to manage FedAccounts, without having to outsource a substantial part of its operations to private firms. It also leaves aside issues related to ensuring reasonable levels of transactional privacy for FedAccount holders. In part, depositors' privacy concerns should be alleviated by (1) the continuing availability of physical cash, and (2) the CBI option for deposit services.[167] A more complete solution, though, would likely require technology enabling sufficiently anonymous digital-dollar payments, subject to amount limitations and other conditions necessary to prevent criminal transactions.[168] These technological solutions may involve outsourcing of certain functions to private firms: CBIs, PSPs, or perhaps a separate category of licensed providers.[169] Any such institutional arrangements would have to be narrowly delineated and closely monitored by the Fed.

To sum up, the proposed restructuring of the Fed's liabilities would fundamentally alter the dynamics at the very core of the finance

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163. *See supra* Part III.A.

164. BANK OF ENG., *supra* note 90, at 27. Alternatively, each PSP could be allowed to maintain a "pooled" FedAccount, holding all its users' money, and to process payments among its users internally. That, however, would fragment the payment system and impede the Fed's ability to deploy "helicopter money" tools. *See* Baldwin, *supra* note 134.

165. *See* Dan Awrey, *Bad Money*, 106 CORNELL L. REV. 1 (2020) (discussing financial risks associated with potential insolvencies of peer-to-peer payment platforms).

166. Individual PSPs may be regulated by the FTC or the CFPB (if they provide consumer financial services), with the focus on fraud prevention, disclosure, data security and privacy, non-discrimination, and other relevant aspects of the PSP-client relationship. *See supra* note 162 and accompanying text.

167. Depositors worried about potential government surveillance of their payments may prefer opening accounts at CBIs.

168. *See* Macro Musings, *supra* note 151.

169. *Id.*; Allen et al., *supra* note 151, at 44–45.

franchise system.[170] As shown in this Part, it would dramatically expand—and qualitatively change—the Fed's present arsenal of monetary policy tools. The FedAccounts system would empower the Fed to determine, in a direct and efficiently tailored way, both the structure of interest rates and the overall quantity of money flowing in the economy. The inherent programmability of digital money would make this process even more flexible and responsive to the economy's needs. In effect, the Fed would be able to conduct monetary policy by managing the *liability* side of its own ledger.

That, however, immediately raises an important question: What needs to happen on the *asset* side of the Fed's balance sheet in order to accommodate this shift? Answering this question is the key to understanding the full extent of the potential system-wide transformation that begins with opening the Fed's balance sheet to ordinary Americans.

IV. Reforming the Asset Side: Public-Private Capital Allocation

The creation of FedAccounts will have profound structural implications for the Fed's balance sheet—and, more broadly, its role in the economy. By definition, the most visible such implication is the dramatic expansion in the size of the Fed's liabilities, which requires the corresponding growth of its assets. This Part examines the qualitative impact of this structural shift on the Fed's asset portfolio. It envisions a fundamental change in the asset composition of the Fed's balance sheet, which would unlock its potential to function as the ultimate public platform for creating and managing system-wide financial flows, or the People's Ledger.

A. The Proposal: New Discount Window, Public Infrastructure Finance, and Systemic Stabilization Portfolio

As discussed above, any deliberate expansion of central banks' balance sheets tends to invite intense political controversy.[171] The CBDC debate provides a good example of this underlying discomfort with the idea of a central bank running "too big" a book as a result of

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170. Given the pace of technological change, however, it is critical that the Fed remain vigilant in policing against new forms of unauthorized private amplification or replication of the sovereign's money-creation function. These may include, for example, sophisticated new leveraging strategies and complex digital assets, directly or indirectly linked to FedAccounts.

171. *See supra* Part I.B.

issuing its own digital currency.[172] The principal—and most frequently voiced—concern here is that digitizing central bank money will render central banks dangerously powerful and vulnerable to political manipulation and abuse. A subtler version of the same sentiment focuses on central banks having to hold and manage assets offsetting their digital money issuances. In wider discussions, the idea of central banks as large-scale investors in financial assets triggers familiar warnings about governments "crowding out" private investment or "picking winners and losers" in ostensibly private markets.[173] Experts channel the same worry by emphasizing the difficulty of defining technical parameters for central banks' expanded portfolios and the riskiness of "a potentially larger central bank footprint" in the financial system.[174]

In short, the problem appears to stem from the recognition that CBDC issuance opens the possibility of dramatically increasing the role of public allocation of capital. Most objections to allowing significant *quantitative* growth of central bank balance sheets, in fact, reflect the underlying concerns about the *qualitative,* compositional aspects of such growth. Ultimately, however, these concerns are rarely substantiated by reference to anything more specific than deeply internalized skepticism toward the government as an economic actor.[175]

By contrast, this Article views the proposed change in the Fed's liabilities as an opportunity to augment both (1) its ability to modulate credit-money supply more effectively, and (2) its potential to facilitate the more efficient allocation of that supply to productive enterprise.

As discussed above, the Fed's traditional asset portfolio includes primarily Treasury and agency debt and various securities purchased pursuant to its crisis-containment and market-stabilization operations.[176] Under the present proposal, the Fed's principal asset holdings will fall into one of three key categories: (1) redesigned discount window loans to qualifying lenders, (2) securities issued by the existing and newly created public instrumentalities for purposes of financing large-scale public infrastructure projects, or (3) an

172. *See supra* Part II.B.

173. *See, e.g.*, Stephen G. Cecchetti & Kermit L. Schoenholtz, *The Fed Goes to War: Part 3*, MONEY & BANKING (Apr. 12, 2020), https://www.moneyandbanking.com/commentary/2020/4/12/the-fed-goes-to-war-part-3 [https://perma.cc/4H7V-B3R5] ("[P]icking winners and losers is not a sustainable assignment for independent technocrats. It is a role for fiscal authorities, not central bankers.").

174. BANK FOR INT'L SETTLEMENTS, *supra* note 102, at 87.

175. For analysis refuting such skepticism, see Robert C. Hockett & Saule T. Omarova, *Public Actors in Private Markets: Toward a Developmental Finance State*, 93 WASH. U. L. REV. 103 (2015) [hereinafter *Public Actors*].

176. *See supra* Part I.B.

expanded portfolio of trading assets maintained for purposes of dynamic market stabilization.[177]

Each of these three new asset categories represents both a significant departure from and a direct extension of the Fed's current investment strategy. In this sense, the proposed restructuring of the Fed's asset portfolio builds on what the central bank is doing already in pursuit of macroeconomic stability goals, but in a more direct and effective manner.

1. "New Discount Window" Loans

The first category of assets on the Fed's newly reconstituted balance sheet would be what this Article calls the "New Discount Window" ("NDW") loans. Currently, discount window loans do not occupy a significant place on the Fed's balance sheet. Only depository institutions, such as commercial banks, are currently eligible for discount-window borrowing.[178] Banks, however, are generally reluctant to borrow from the Fed because of the commonly described "stigma" attached to discount window loans as a sign of the borrowing banks' diminished ability to access liquidity in the interbank-loan market.[179]

Massive migration of deposits directly onto the Fed's balance sheet, proposed above, will potentially necessitate a significant shift in the scale and core function of the discount window. Most immediately, it will force commercial banks to seek alternative sources of funding in order to continue their lending activities. The extreme difficulty of replacing deposit liabilities with comparably priced and "sticky" non-deposit funding on a comparable scale will likely cause massive contraction in bank lending.[180]

To keep the economy-wide flow of credit, the most readily available option would be to open the Fed's discount window to banks and other former depository institutions that (1) continue to engage in lending activity, and (2) meet specified qualification criteria (described

177. In addition to these three new asset classes, the Fed will be able to continue holding U.S. Treasury bonds and other government securities, as well as other assets it routinely acquires in the course of its operations (SDRs, gold certificates, foreign currencies, etc.). *See supra* note 55 and accompanying text. For purposes of presentational clarity and brevity, the following discussion focuses only on the three newly proposed asset classes.

178. *See supra* notes 55–58 and accompanying text.

179. This does not prevent banks from borrowing through the Fed's discount window when market conditions demand it. *See* Renee Courtois Haltom, *Federal Reserve: Stigma and the Discount Window*, 15 ECON. FOCUS 6 (2011); Yalman Onaran, *U.S. Banking Giants Tap Fed's Discount Window to Ease Stigma*, BLOOMBERG (Mar. 16, 2020), https://www.bloomberg.com/news/articles/2020-03-17/u-s-banking-giants-tap-fed-s-discount-window-to-ease-stigma [https://perma.cc/99P5-7F4k].

180. *See supra* notes 119–121 and accompanying text.

below). These "qualifying lending institutions" ("QLIs") will be able to borrow from the Fed at preferential rates and against qualifying high-quality collateral. In contrast to the current model of discount window as a short-term backup liquidity facility for troubled banks, the NDW will function as the principal channel for directing funds deposited in FedAccounts into private credit markets. The NDW credit facility will efficiently and effectively replace deposit funding for banks and enable a broad range of nonbank credit institutions to access this reliably "patient," stable, and affordably priced capital.[181]

From the Fed's—or the public's—perspective, this expansion of direct liquidity provision constitutes a logical continuation of the current practice of outsourcing loan portfolio management to private financial institutions.[182] By directly supporting private lenders' credit allocation activities, the Fed will be able to harness private market actors' micro-informational advantages and microeconomic incentives in the public interest.

Of course, it will be critically important to protect the Fed's balance sheet by imposing strict eligibility requirements on private lenders' access to its NDW facility. These should include both collateral eligibility criteria and entity qualification requirements.

The criteria for acceptable NDW collateral need not differ significantly from the current requirements: the assets pledged by the QLIs will have to be of sufficiently high quality, much like they would be under today's discount window regime.[183] At the same time, the NDW facility's role as the principal source of publicly subsidized funding for private credit markets will greatly amplify the impact of the Fed's collateral eligibility policies on the economy-wide credit allocation.

To maximize the allocative impact of the NDW facility, the Fed could supplement its traditional credit-quality criteria for NDW-eligible collateral by explicitly preferencing certain categories of assets (such as, for example, loans to small and medium-size non-financial enterprises and minority-owned businesses, student loans, credit supporting development in underserved communities, bonds issued by

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181. State and local "public banks" and similar institutions will also be eligible to access the NDW facility. Given their public mission and depending on their individual business models and needs, they will operate under a modified QLI regime. *See supra* note 155.

182. Such outsourcing is the defining feature of the existing "franchise" finance. *See supra* Part I.A. This point is also emphasized in Crawford et al., *supra* note 118; and Rohan Grey, *Banking in a Digital Fiat Currency Regime*, *in* REGULATING BLOCKCHAIN 169 (Phillip Hacker, Ioannis Lioanos, Georgios Dimitropoulos & Stefan Eich eds., 2019).

183. *See Federal Reserve Collateral Guidelines*, FED. RSRV. SYS. 3 (Sept. 2020), https://www.frbdiscountwindow.org/RightNavPages/Pledging-Collateral.aspx [https://perma.cc/6EQ9-BVGJ].

firms in certain sectors of the economy, etc.) and excluding others (such as, for example, margin loans, private equity bridge loans, highly engineered asset-backed securities, etc.). While building on the current discount window practice, these new standards would allow for a more granular pursuit of a broader policy agenda. Furthermore, the Fed could make carefully targeted adjustments to its collateral eligibility criteria, for the specific purpose of temporarily increasing (or, conversely, decreasing) the amount of private credit flowing into particular segments of the economy. This type of dynamic adjustment would make the most sense when the Fed detects specific structural bottlenecks or other inefficiencies in the allocation of credit across various sectors or types of producers.[184]

Another tool of maximizing the flow of publicly subsidized private credit to productive enterprise, as opposed to socially suboptimal speculative activities, is to impose specific activity limitations and other prudential requirements on private lenders eligible to access the NDW facility. Again, this approach to entity eligibility is a direct continuation of the existing regime, under which only regulated depository institutions that are subject to activity restrictions and extensive prudential supervision have access to the Fed's discount window. However, as discussed below, a more targeted imposition of investment and affiliation limitations on QLIs eligible for the NDW borrowing can serve as a potentially powerful lever of structural reform in the financial services sector.[185]

2. The National Investment Authority Issuances

The second important asset category on the Fed's restructured balance sheet would comprise a broad range of public issuances in addition to the standard holdings of Treasury and agency debt. The proposed restructuring of the Fed's balance sheet would enable it to channel a significant portion of funds corresponding to the newly created FedAccounts into large-scale purchases of securities issued by various public instrumentalities for purposes of financing of critical public infrastructure projects.

184. It is important to ensure that the Fed uses this dynamic adjustment of collateral eligibility criteria in a carefully calibrated manner, only for as long as it is necessary to correct the targeted allocative inefficiency, and clearly communicates its intentions to QLIs. The key is to retain policy flexibility without creating market uncertainty.

185. For a more detailed discussion, see *infra* Part V.A.

One such public instrumentality is the National Investment Authority ("NIA"), proposed elsewhere.[186] Filling the critical institutional gap between the Fed and the Treasury, the NIA would be tasked with devising and implementing a comprehensive national development strategy.[187] In essence, it is envisioned as the modern-day equivalent of the Reconstruction Finance Corporation ("RFC"), the New Deal–era public institution that successfully led a massive nationwide capital mobilization campaign to aid Depression-struck sectors of the American economy.[188] Much like the RFC, the NIA would transact directly in private financial markets, proactively channeling public and private financial resources into large-scale, transformative public infrastructure projects.[189] Importantly, however, it would reverse the familiar pattern of "public capital, private management" typical of most modern "public-private partnerships" in favor of the "public management, mixed public-and-private capital" model.[190]

Under the proposed scheme, one arm of the NIA would pursue a wide range of well-established credit-mobilization strategies: originating, guaranteeing, and maintaining secondary markets for loans to public and private parties that undertake publicly beneficial infrastructure projects. In this role, the NIA would be acting as an infrastructure-specific analogue to the RFC and its surviving offspring, the home finance GSEs.[191]

Another arm of the NIA would function as a hybrid of a sovereign wealth fund ("SWF") and a private equity firm. Following the business model of a typical asset manager, the NIA would set up a series of collective investment funds (structured similarly to traditional private equity funds) and actively solicit private investors—pension funds, insurance companies, university endowments, foreign SWFs, and so

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186. For a detailed proposal, see Saule T. Omarova, *Why We Need A National Investment Authority* (Cornell L. Sch. L. Stud., Rsch. Paper No. 20-34, 2020), http://ssrn.com/abstract=3566462 [https://perma.cc/3LTP-HQPX]; and *National Investment Authority, supra* note 26, at 469–90.

187. *See supra* note 186.

188. For an overview of the RFC's experience in nationwide credit allocation, see *National Investment Authority, supra* note 26, at 458–63. For an expanded discussion of the proposed NIA's functions as a national crisis-response coordinator, see Omarova, *supra* note 186; and Saule T. Omarova, *Crises, Bailouts, and the Case for a National Investment Authority*, JUST MONEY (Apr. 1, 2020), https://justmoney.org/s-omarova-crises-bailouts-and-the-case-for-a-national-investment-authority/ [https://perma.cc/5XUM-JEFL].

189. *See* SAULE T. OMAROVA, DATA FOR PROGRESS, THE CLIMATE CASE FOR A NATIONAL INVESTMENT AUTHORITY 1 (2020), https://www.filesforprogress.org/memos/white-paper-nia.pdf [https://perma.cc/QX3J-3NPW] (discussing the creation and role of an NIA).

190. *Id.* at 5; Saule T. Omarova, *Public Investment Reimagined: A National Investment Authority*, AM. PROSPECT (Dec. 1, 2020), https://prospect.org/economy/public-investment-reimagined-a-national-investment-authority/ [https://perma.cc/PU29-KYMA].

191. OMAROVA, *supra* note 189, at 7–9.

on—to purchase passive equity stakes in its funds. The NIA's dedicated professional teams would then select and manage individual funds' portfolios of public infrastructure assets: nationwide clean energy networks and high-speed railroads, regional air and water cleaning and preservation programs, systems of ongoing adult education and technical training, networks of mixed public-private "startup" finance funds, and so on.[192] The NIA would be able to employ advanced financial engineering methods to reward private investors for their participation in financing these large-scale, long-term economic growth-boosting projects—even where such projects do not generate easily privately "capturable" revenues.[193]

It is important to emphasize that the NIA will partner up with private investors not out of financial necessity but solely in order to (1) offer a productive, non-speculative and non-inflationary outlet for private investment capital; and (2) incorporate price signals into its own investment decisions, thereby leveraging private markets' information-production capacity as a tool of public decisionmaking.[194] In this sense, the NIA proposal operationalizes the principle of public modulation and allocation of money and credit.

A detailed discussion of the NIA's institutional design and operation is beyond the scope of this Article. For present purposes, the key is to emphasize the crucial complementarity between the establishment of a public infrastructure finance agency, on the one hand, and the proposed redesign of the Fed's balance sheet, on the other. Instruments issued by the NIA represent a particularly well-suited asset category for the Fed's newly expanded portfolio. By purchasing NIA issuances, the Fed would be investing in the long-term development of the nation's economic capacity. In effect, the Fed would be offsetting the dramatic increase in its own liabilities—thus relieving the pressure on its own balance sheet—by dramatically augmenting the flow of credit into the coordinated nationwide construction of public infrastructure that enables and facilitates structurally balanced, socially inclusive, and sustainable economic growth.[195]

Importantly, however, the Fed would not be making any direct credit-allocation decisions on a project-by-project basis—a task

192. *Id.* at 9–10 (briefly outlining the general structure and functions of the NIA as an asset manager).

193. For a discussion of the specific methods and techniques of financial and legal engineering the NIA could adapt to this end, see *id.* at 10–12; and *National Investment Authority*, *supra* note 26, at 475–80, 486–90.

194. *See* OMAROVA, *supra* note 189, at 12.

195. For a discussion of the NIA's ability to generate economic growth that is socially inclusive, sectorally and geographically balanced, and sustainable in the long run, see *National Investment Authority, supra* note 26, at 469–89; and Omarova, *supra* note 190.

explicitly reserved for the NIA.[196] This should help to avoid or minimize any potential accusations of the Fed exceeding its mandate and conducting overtly fiscal policy.[197] From the Fed's perspective, purchasing NIA instruments will function as a much higher-level portfolio strategy that, along with the more familiar NDW facility, aims to support and manage the flow of public and private credit to productive economic enterprise. In that sense, it will represent an addition to, or expansion of, the Fed's well-established practice of purchasing Treasury and agency debt.[198]

3. "OMO Plus" Assets

The third principal asset category on the Fed's balance sheet will consist of a diversified portfolio of financial instruments acquired through the Fed's expanded open market trading operations, or "OMO Plus."[199]

As discussed above, the Fed currently makes extensive use of the traditional OMO tool, regularly buying and selling Treasury and agency debt and entering into repo and reverse repo transactions—all for the explicit purpose of managing interest rates.[200] OMO Plus is a relatively straightforward extension of this well-established monetary policy tool. Under this proposal, the Federal Reserve Bank of New York ("FRBNY") would conduct regular purchases and sales of a broad range of securities and other tradable financial assets with an explicit view to modulating volatile swings in what has been defined elsewhere as "systemically important prices."[201]

To this end, the FRBNY would establish a separate trading portfolio replicating, as closely as practicable, the market portfolio. In effect, this portfolio would be an index fund reflecting the proportional values of all financial asset classes constituting the financial market as a whole.[202] Once the fund is established, the Fed would conduct its current daily tracking of the nation's financial markets.

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196. As mentioned above, the NIA would operate as a hybrid federal instrumentality, situated between the Fed and the Treasury. *See supra* Part IV.A.2.

197. *See, e.g.*, GEORGE SELGIN, THE MENACE OF FISCAL QE (2020) (arguing against central bank asset purchases as a way of aiding fiscal policy). *But cf.* Bateman, *supra* note 63 (detailing the role of central banks in providing direct financial support for fiscal authorities).

198. *See supra* Part I.B.

199. *Public Actors*, *supra* note 175, at 140–44 (detailing the OMO Plus proposal).

200. *See supra* Part I.B.2.

201. For a detailed account of "systemically important prices," see Robert C. Hockett & Saule T. Omarova, *Systemically Significant Prices*, 2 J. FIN. REGUL. 2 (2015).

202. In constructing this portfolio, it might be easier to start by including only publicly traded securities. This prototype market portfolio could be a broad stock index, such as S&P 500 or Wilshire 5000. However, because this approach might leave systemically important asset classes

If a particular asset class—such as mortgage-backed securities or technology stocks—rises in market value at rates suggestive of a bubble trend, the FRBNY trading desk will short these securities, thereby putting downward pressure on their prices. This type of action would tend to tighten the flow of speculative credit to the asset class in question, because (1) speculative profit prospects would be diminished by the price drop; and (2) the Fed's engineering the drop would signal to the market its determination that current prices of the asset in question are artificially inflated and accordingly best suppressed. Conversely, the FRBNY will go long on particular asset classes that appear to be artificially undervalued in order to avoid unnecessary market dislocation. It will follow the same process in targeting broader market-price fluctuations.[203]

OMO Plus would thus serve as a flexible and direct tool of preventing systemically destabilizing booms and busts in financial markets. Importantly, it will not operate as simply another form of QE or a similar market-backup mechanism.[204] The Fed will not be announcing its intention to stand ready to purchase a particular class of financial assets from particular financial institutions in order to prop up a particular market segment experiencing distress. Its OMO Plus trading will function as a far more nimble, granular, and continuous response to certain market movements potentially signaling concerning trends. The resulting portfolio of tradable financial assets on the Fed's balance sheet—its new market-stabilization portfolio—would be set off against its newly expanded deposit liabilities.

The figures below illustrate the combined changes on both the asset and liability sides of the Federal Reserve's balance sheet, proposed above. Figure 1 presents, in a highly stylized and abbreviated form, the basic structure of the Fed's balance sheet under the current system. Figure 2, by contrast, depicts the principal elements comprising the newly reimagined Fed balance sheet.

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out of the program's reach, it is preferable to replicate the entire market portfolio as closely as possible. *See Public Actors*, *supra* note 175, at 141.

203. *Id.* at 142.

204. Post-2008, the Fed's role as a market maker is often discussed as a necessary crisis-*containment* measure. *See* MEHRLING, *supra* note 65; HAL S. SCOTT, CONNECTEDNESS AND CONTAGION: PROTECTING THE FINANCIAL SYSTEM FROM PANICS 1 (2016). This Article, by contrast, contemplates proactive use of the central bank's market-making capacity as an important tool of crisis *prevention*.

FIGURE 1: FED BALANCE SHEET AS THE "FRANCHISOR LEDGER"

Assets	**Liabilities**
- U.S. Treasury securities	- Currency (notes)
- Agency & GSE securities	- Reserve accounts
- Discount Window loans	- *Other liabilities*
- *Other Assets*	

FIGURE 2: FED BALANCE SHEET AS THE "PEOPLE'S LEDGER"

Assets	**Liabilities**
- New Discount Window loans	- Currency
- NIA issuances	Physical notes
- OMO Plus trading assets	Digital cash/tokens
- *Other Assets*	- Deposits ("FedAccounts")
	Individual
	Entity
	- *Other liabilities*

B. The Fed's Balance Sheet as the "People's Ledger"

Redesigning the Federal Reserve's balance sheet, as envisioned in this Article, would fundamentally transform and democratize both the financial system and the broader economy. The asset-side reforms proposed in this Part, in particular, would consciously embrace and harness the power of the central bank to allocate credit to productive economic enterprise.

As the preceding discussion makes clear, this deliberate overhaul of the Fed's asset portfolio requires a significant change in the

broader institutional context in which the central bank operates. At bottom, the standard objections to, and concerns about, the Fed actively using its balance sheet to shape credit allocation erroneously assume *structural immutability* of the presently existing financial system.

Once we accept the fact that the structural context for the Fed's asset allocation itself can and should be changed, allowing the Fed to manage a much larger asset portfolio should not appear as a dangerous deviation from the norm. In fact, under the scheme proposed here, the Fed's operations will finally render the orthodox notion of "financial intermediation" a reality.[205] By providing universally accessible deposit accounts and channeling the corresponding amounts into select classes of private and public issuances, the Fed will effectively stand as the intermediating link between savers/investors (the liability side) and wealth/productivity growth (the asset side).

In this sense, the proposed restructuring of the Fed's balance sheet would signify a critical shift in the existing finance franchise arrangement. Currently, as discussed above, the Fed's balance sheet reflects its role as the sovereign franchisor whose principal liabilities run to, and whose assets are acquired from or through, private franchisee-institutions.[206] These private institutions occupy the privileged position of mediating the central bank's participation in, and engagement with, the nation's financial and economic system. Under the proposal advanced here, there will be no need for granting these private financial institutions exclusive access to the Fed's balance sheet and control over creation and allocation of sovereign credit-money—a fundamentally public function.[207] The Fed's balance sheet will function as the ultimate platform for the integrated public management of the economy-wide flows of the sovereign public's full faith and credit. It will become the People's Ledger.

From this perspective, the increased size of the Fed's balance sheet is a measure of the People's Ledger's depth and capaciousness. A bigger, deliberately constructed, and dynamically managed asset portfolio is an indicator of the Fed's enhanced ability to channel our collectively accumulated financial resources into productive economic activities.

Importantly, private financial institutions will still engage in credit allocation on a more granular, micro level. Thus, the Fed's NDW facility will enable QLIs to extend private loans to entities and

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205. For a critique of the "intermediation" narrative of finance, see *Finance Franchise, supra* note 12, at 1148.

206. *See supra* Part I.B.

207. *See Finance Franchise, supra* note 12.

individuals.[208] These private lenders will be assisting the central bank by utilizing their Hayekian micro-informational advantages and transactional expertise to evaluate and select individual investment opportunities.[209] Similarly, the proposed NIA would directly partner with private institutional investors for purposes of financing public infrastructure projects. To the extent these investors are free to choose alternative uses for their capital, this model would provide the NIA with a valuable mechanism for receiving market feedback.[210] In this sense, the People's Ledger is a tool of optimizing the overall public-private balance of power in our fundamentally hybrid financial system.

Of course, the proposed shift in the Fed's business model raises a host of administrative and other implementation-related issues that would require careful consideration at appropriate times. For present purposes, the key threshold question is whether, and how, the proposed restructuring of the Fed's balance sheet would affect its overall mandate and operation.[211]

Under the current law, the Federal Reserve's charge is to "[m]aintain long run growth of the monetary and credit aggregates commensurate with the economy's long run potential to increase production, so as to promote effectively the goals of maximum employment, stable prices, and moderate long-term interest rates."[212] This statutory language is sufficiently broad to accommodate the shifts in its asset portfolio, described above. In fact, the proposed shifts would empower the Federal Reserve to fulfill this broad legal mandate far more effectively than it has done so far.

For decades, the Fed's monetary policy mandate has been interpreted narrowly as pursuing the "dual" goal of price stability with maximum employment, via interest rate manipulation—a notoriously blunt tool.[213] This uneasy "duality" of the mandate and the Fed's limited success in balancing its imperatives in practice have long been a source

208. *See supra* Part IV.A.1.

209. *See supra* Part IV.A.1.

210. *See supra* Part IV.A.2.

211. This article does not address the Fed's legal authority to offer FedAccounts to individuals and non-financial firms on the understanding that Section 16 of the Federal Reserve Act will need to be amended to enable this activity. *See* 12 U.S.C. § 411.

212. 12 U.S.C. § 225a. This formulation was adopted in 1977 and is widely known as the Fed's "dual mandate." *See* Aaron Steelman, *The Federal Reserve's "Dual Mandate": The Evolution of an Idea*, FED. RSRV. BANK OF RICHMOND (Dec. 2011), https://www.richmondfed.org/-/media/richmondfedorg/publications/research/economic_brief/2011/pdf/eb_11-12.pdf [https://perma.cc/MY6Z-PN8N].

213. *See* Steelman, *supra* note 212; *see also, e.g.*, CONG. RSCH. SERV., RL30354, MONETARY POLICY AND THE FEDERAL RESERVE: CURRENT POLICY AND CONDITIONS 1, 7, 20 (2020).

of intense debate and controversy.[214] By utilizing the full array of new tools on both sides of its balance sheet, the Fed would be able to perform its statutory mission in an integrated manner, without being caught in an artificial trade-off between promoting employment-generating growth on the one hand, and ensuring price stability on the other.[215] In important ways, the perceived conflict between these two policy objectives is a product of the current system that bifurcates the functionally unified process of modulation and allocation of sovereign credit-money.[216] Giving the Fed a more direct and clearly defined *allocative* role would help to bridge this gap and serve as a crucial enhancement of the Fed's ability to perform its traditional *modulatory* function.

OMO Plus, for instance, is a direct tool of preventing harmful inflation of financial asset prices.[217] Similarly, the NDW program is a straightforward mechanism of maintaining elastic money supply. The enhanced ability to condition access to the NDW facility on private lenders' willingness to channel financing into certain sectors of the U.S. economy, however, gives the Fed a new lever of credit allocation.[218] To the extent this involves more granular and explicit qualitative choices with respect to directing credit flows than what is typically done under the current discount window arrangements, it may require technical adjustments or updates to the Fed's collection and use of macroeconomic and financial data. Thus, to manage the supply and cost of privately available credit effectively, the Fed would need to monitor relevant market dynamics and analyze relevant quantitative and qualitative data with a specific view to (1) identifying potential structural impediments to achieving desired levels of output, productivity, employment, or other policy-driven metrics in specific

214. Since 1977, the Federal Reserve has been repeatedly criticized for favoring its price-stability goal over the maximum-employment objective. *See, e.g.*, Steelman, *supra* note 212, at 3. In the post-2008 era, some Fed officials have directly questioned the general feasibility of having a central bank pursue any policy goals other than inflation control. FED. RSRV. BANK OF ST. LOUIS, *The Fed's Dual Mandate: Lessons of the 1970s*, *in* MANY MOVING PARTS: A LOOK INSIDE THE U.S. LABOR MARKET, ANNUAL REPORT (Apr. 2011), https://www.stlouisfed.org/annual-report/2010 [https://perma.cc/8FEG-NJEW] (a message from bank President and CEO James Bullard); Al Stamborski, *A Look at the Fed's Dual Mandate*, FED. RSRV. BANK OF ST. LOUIS: OPEN VAULT BLOG (Aug. 8, 2018), https://www.stlouisfed.org/open-vault/2018/august/federal-reserve-dual-mandate [https://perma.cc/NQB2-6SX3]. Others have advocated targeting economic growth measures, such as nominal GDP, instead of the inflation rate. *See, e.g.*, Matthew O'Brien, *A Rebellion at The Federal Reserve?*, ATLANTIC (May 2, 2012), https://www.theatlantic.com/business/archive/2012/05/a-rebellion-at-the-federal-reserve/256601/ [https://perma.cc/2TZ4-EDJD].

215. *See supra* note 214.

216. *See supra* Part I.B.

217. *See supra* notes 201–204 and accompanying text.

218. *See supra* notes 183–184 and accompanying text.

pockets of the economy; and (2) correcting these imbalances in an optimally targeted and timely manner, among other things, by incentivizing QLIs to increase or decrease lending to specific borrower categories.[219]

It is important to emphasize that updating or repurposing the Fed's existing analytical apparatus to support its new range of action does not automatically render the Fed an agent of fiscal or industrial policy. While proactively managing the economy-wide flow of credit, the Fed would not be making any direct investment decisions, especially at the level of individual projects or entities.[220] Public investment decisions would be left to the Treasury and the newly created NIA. Having the NIA, in particular, take on the task of mobilizing public and private investment in the real economy would significantly ease the currently mounting political pressure on the Fed to use its balance sheet to create jobs, fight climate change, reduce racial and social inequity, and so forth.[221] The NIA's broad developmental policy mandate would explicitly embrace these critical public policy goals.[222] In this context, the creation of the NIA would allow the Fed to provide tangible support for these policies, while also fulfilling its own legal mandate more effectively.

One final point deserves a brief mention here. Explicitly embracing the Fed's role in credit allocation, as proposed above, would require closer coordination and information-sharing among the Fed, the Treasury, and the NIA. While the Fed would continue to rely primarily on its formidable in-house expertise in tracking and analyzing macroeconomic data, soliciting direct input from the Treasury and the NIA would augment its capacity to assess and prioritize specific structural imbalances potentially demanding NDW policy responses. In this tangible way, abandoning the illusory notion of technocratic neutrality as the basis of sound monetary policy creates an important opening for a more deliberate and transparent incorporation of

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219. *See supra* Part IV.A.1.

220. *See supra* notes 196–198 and accompanying text. Importantly, the Fed would retain its emergency lending powers under Section 13(3) of the Federal Reserve Act. *See* 12 U.S.C. § 343; Menand, *supra* note 74. Under the proposed new regime, however, these powers "of last resort" will likely be reserved for truly exceptional circumstances.

221. *See* Patrick Honohan, *A Monetary Policy Tilt for Climate and Inequality?*, PETERSON INST. FOR INT'L ECON.: REALTIME ECON. ISSUES WATCH (Oct. 17, 2019, 9:30 AM), https://www.piie.com/blogs/realtime-economic-issues-watch/monetary-policy-tilt-inequality-and-climate-change [https://perma.cc/E7AZ-JLJF]; Victoria Guida, *An Activist Central Bank? Dems Push the Fed to Fight Racial Inequality*, POLITICO (Aug. 29, 2020, 7:00 AM), https://www.politico.com/news/2020/08/29/federal-reserve-race-economic-activism-404560 [https://perma.cc/V9JP-669P].

222. *See supra* Part IV.A.2.

democratically established public policy priorities into the Fed's operations.[223]

To sum up, the proposed structural changes to the Federal Reserve's asset portfolio, along with the broader institutional reforms necessary to enable these changes, would fundamentally redefine the public-private balance of power in the finance franchise. Under the new arrangement, the sovereign public will manage system-wide flows of credit by performing both the familiar modulatory and the newly expanded allocative functions in an integrated—and therefore more effective—fashion.

It is difficult to overestimate the profound systemic implications of this comprehensive transformation of the Fed's balance sheet from the traditional "franchisor ledger" into the People's Ledger. While it is impossible to offer a fully detailed account of how this reform will reverberate throughout the entire financial system, it is helpful to trace some of its principal structural consequences.

V. THE PEOPLE'S LEDGER IN ACTION: STRUCTURAL IMPLICATIONS

The creation of universally available FedAccounts and corresponding reconfiguration of the Fed's asset portfolio, proposed above, are bound to generate significant changes in the key functions, business models, and risk profiles of many private financial institutions and markets. Broadly retracing the logic of the existing finance franchise, this Part offers a high-level—and inevitably somewhat speculative—overview of these potential changes, starting with commercial banks and then moving through the multiple layers of money and capital markets.[224] Without claiming to offer a complete map of the new system, it shows how transforming the Fed's balance sheet into a true People's Ledger would reduce socially harmful speculative trading in financial instruments, make the financial system less complex and more efficient, and enable financial markets to perform their core function of supporting productive economic enterprise more effectively.[225]

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223. This could potentially raise questions about the Fed's political independence, which are beyond the Article's scope. For present purposes, it is worth emphasizing that, in our democratic society, institutional independence is an inherently complex and context-dependent phenomenon. For in-depth analyses of this phenomenon, see PETER CONTI-BROWN, THE POWER AND INDEPENDENCE OF THE FEDERAL RESERVE (2016); and PAUL TUCKER, UNELECTED POWER: THE QUEST FOR LEGITIMACY IN CENTRAL BANKING AND THE REGULATORY STATE (2018).

224. For the original exercise tracing the operation of the existing system of franchise finance, see *Finance Franchise, supra* note 12.

225. As a brief side note, it is worth mentioning here that a comprehensive shift to the People's Ledger model of central banking would also impact the structure and operation of the market for

A. Potential Impact on the Banking Sector

Every proposal to institute universally available Fed deposit accounts immediately invites the question of how it would affect commercial banks. Under the currently standard model of banking business, banks are expected to operate by (1) extending long-term loans they hold on their balance sheet until maturity, and (2) funding these illiquid long-term credit assets by taking demand deposits.[226] A wholesale migration of deposits out of commercial banks would, therefore, directly impinge on banks' traditional funding model—and threaten their continuing ability to extend credit to businesses and individuals.

In practice, of course, banks' balance sheets do not strictly conform to this presumed model of the "banking business." Today's banks do not hold all loans to maturity, choosing instead to securitize or sell them in secondary markets. Nor do they fund their assets *exclusively* with deposits. This is especially true of large and mid-size banks operating within the diversified "financial holding company" ("FHC") structures.[227] Under the Bank Holding Company Act of 1956

Treasury debt. Among other things, it would remove the principal rationale for the continuing reliance on primary dealers: large banks and securities firms licensed to buy Treasury securities at auctions for purposes of reselling them to other market participants. *See Primary Dealers*, FED. RSRV. BANK OF N.Y., https://www.newyorkfed.org/markets/primarydealers (last visited June 15, 2021) [https://perma.cc/WLY5-8QWC]. Primary dealers make markets in Treasury debt and act as the trading counterparties of the FRBNY in implementation of monetary policy. *Id.*; KENNETH D. GARBADE, FED. RSRV. BANK OF N.Y., STAFF REP. NO. 777, THE EARLY YEARS OF THE PRIMARY DEALER SYSTEM, (June 2016), https://www.newyorkfed.org/medialibrary/media/research/staff_reports/sr777.pdf?la=en [https://perma.cc/8WS2-VW85] (describing primary dealers' function as the historically created "interface" between the Fed and the market). The fundamental revamp of the Fed's monetary policy tools, proposed in this Article, would render primary dealers functionally superfluous. *See supra* Part III. Instead, advanced technological solutions could be used to open Treasury bond auctions to mutual funds, pension funds, insurance companies, and other institutional investors that currently buy these bonds in secondary markets for their long-term investment portfolios. The Fed could accordingly act as the direct market maker for Treasury securities—the function it already performs, albeit indirectly and often non-transparently. *See* Bateman, *supra* note 63 (examining the mechanisms through which the Fed and other central banks have been effectively monetizing significant amounts of government debt since the 2008 crisis); Will Bateman, *Quantitative Easing, Quasi-Fiscal Power and Constitutionalism,* JUST MONEY (Dec. 28, 2020), https://justmoney.org/will-bateman-quantitative-easing-quasi-fiscal-power-and-constitutionalism/ [https://perma.cc/T7WH-8SRP]. Such a significant shift in the organization and functioning of the Treasury market would have potentially far-reaching fiscal policy implications and raise a host of complex political, legal, and operational issues. A discussion of these issues and implications, however, is beyond the scope of this Article.

226. As discussed above, this is merely a description of the standard narrative that fails to capture the entirety of these dynamics. *See supra* Part I.A.

227. *See* 12 U.S.C § 1843(k). Under the law, "bank holding companies" ("BHCs") that own or control U.S. banks are subject to strict activity limitations. FHCs are a subset of BHCs, which satisfy certain financial and management criteria and therefore can engage in financial (and some commercial) activities ordinarily not available to BHCs. *See infra* note 231 (citing sources).

(the "BHC Act"),[228] as amended by the Gramm-Leach-Bliley Act of 1999,[229] FHCs are allowed to engage in a broad range of financial activities, including securities underwriting and dealing, investment fund management, insurance, and so forth.[230] Large, diversified FHCs actively use their deposit-taking bank subsidiaries' balance sheets to support their lucrative trading, dealing, and investing activities they conduct through their nonbank subsidiaries.[231] To the extent deposits, especially FDIC-insured retail deposits, are by far the cheapest and "stickiest" form of bank funding, they remain a critical driver of banking institutions' profitability.[232] Accordingly, the proposed restructuring of the Fed's balance sheet will have potentially significant impact not only on deposit-taking banks but also on their parent companies and nonbank affiliates.

To begin with, it is critical to emphasize that the creation of FedAccounts does not really have to affect the *asset* sides of banks' own balance sheets. As discussed above, the proposed NDW mechanism will enable banks to continue their lending activities by accessing low-cost Fed funding instead of deposits.[233] Importantly, this change in the identity of private banks' main creditor—from the multitude of dispersed depositors to the Fed—would eliminate the underlying causes of bank "runs."[234] Thus, replacing demand deposits with Fed discount window loans will remove the key source of fragility built into banks' traditional business model.

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228. Bank Holding Company Act of 1956, Pub. L. No. 84-511, §§ 1–12, 70 Stat. 134 (1956) (codified as amended at 12 USC §§ 1842–1848).

229. Financial Services Modernization Act (Gramm-Leach-Bliley Act), Pub. L. No. 106-102, 113 Stat. 1338 (1999). The Act repealed Sections 20 and 32 of the Banking Act of 1933, popularly known as the Glass-Steagall Act, which established legal separation between commercial banks and investment banks. *See supra* note 36.

230. *See* 12 U.S.C. § 1843(k)(1)(A) ("[FHCs] may engage in any activity [that is] financial in nature or incidental to such financial activity.").

231. For detailed discussions of FHCs' activities and intragroup risk-transfer practices, see Saule T. Omarova, *The Merchants of Wall Street: Banking, Commerce, and Commodities*, 98 MINN. L. REV. 265, 342–46 (2013); Saule T. Omarova, *From Gramm-Leach-Bliley to Dodd-Frank: The Unfulfilled Promise of Section 23A of the Federal Reserve Act*, 89 N.C. L. REV. 1683, 1696–1702 (2011) [hereinafter *The Unfulfilled Promise*].

232. *See, e.g.*, ADAM J. LEVITIN & SUSAN M. WACHTER, THE GREAT AMERICAN HOUSING BUBBLE: WHAT WENT WRONG AND HOW WE CAN PROTECT OURSELVES IN THE FUTURE 163–80 (2020) (discussing banks' use of "sticky" insured deposits to finance risky securitizations).

233. *See supra* Part IV.A.1 (showing how the NDW facility will channel funds into private credit markets).

234. This point is emphasized in Crawford et al., *supra* note 118, at 133–35. Generally, bank runs are situations in which individual depositors simultaneously rush to withdraw their money from the bank they fear to be on the brink of insolvency. For an influential economic model of a bank run, see Douglas W. Diamond & Philip H. Dybvig, *Bank Runs, Deposit Insurance, and Liquidity*, 91 J. POL. ECON. 401, 405–10 (1983). Once the money is fully sovereign, there is no danger of default.

In essence, banks will become non-depository lenders. They would use NDW financing for loans and other eligible assets that meet the Fed's NDW criteria for credit quality.[235] They would finance loans not eligible for NDW funding—"non-qualifying" loans—by issuing corporate debt and equity securities in capital markets, much in the same way as other corporations do.[236] As discussed below, they would also be able to fund these non-qualifying loans via private-market securitizations.[237] Without the federal subsidy attached to demand deposits, banks' riskier investments and activities—as well as those deemed less critical from the public policy perspective—will be directly subject to market discipline.

Banks, in other words, will not be "special" anymore.[238] By separating their lending function from their monetary function, the proposed reform will effectively "end banking," as we know it.[239] Credit generation, fundamentally dependent upon the monetized full faith and credit of the sovereign public, will be reserved either for public instrumentalities or for QLIs—private lenders with access to the Fed's NDW facility.

Once banks lose their "special" status and entity-based access to the public subsidy, they will inevitably lose their appeal as potential acquisition targets for other financial institutions. Tying the subsidy to specific NDW-qualifying assets generated by private firms, rather than to the firms themselves, makes it far more difficult (if not impossible) to transfer the benefits of that subsidy to these firms' affiliates.[240] The ability to transfer such benefits from federally backed banks to affiliated securities firms, derivatives dealers, and asset managers is the source of so-called "implicit" public subsidy that FHCs currently

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235. For a discussion of the NDW collateral criteria, see *supra* Part IV.A.1.

236. This bifurcation of private lenders' assets would be similar to the well-established practice in the U.S. home-finance markets, where the GSEs are restricted by law to purchasing only so-called "conforming" loans. *Conforming Loan Limits*, FED. HOUS. FIN. AGENCY, https://www.fhfa.gov/DataTools/Downloads/Pages/Conforming-Loan-Limits.aspx (last visited June 18, 2021) [https://perma.cc/QP95-5GXM].

237. *See infra* Part V.B.4 (arguing that this proposal would force banks to "re-focus on *primary markets* for capital").

238. *See* E. GERALD CORRIGAN, FED. RSRV. BANK OF MINNEAPOLIS, ANNUAL REPORT 1982: ARE BANKS SPECIAL? 7 (1983).

239. The phrase is a direct play on the title of JONATHAN MCMILLAN, THE END OF BANKING: MONEY, CREDIT, AND THE DIGITAL REVOLUTION (2014).

240. Technically, sections 23A and 23B of the Federal Reserve Act impose a set of quantitative and qualitative limitations on deposit-taking banks' extensions of credit to their nonbank affiliates. 12 U.S.C. §§ 371c to c-1. In practice, however, this regime has not been sufficiently robust to prevent the transfer of the subsidy within bank-centered financial conglomerates. For a detailed analysis of this regime and its shortcomings, see *The Unfulfilled Promise*, *supra* note 231, at 1696–1702.

enjoy.[241] While notoriously difficult to quantify, this implicit subsidy has been a crucial driver of the unprecedented consolidation and concentration in the U.S. financial industry since the 1990s.[242] It is also at the very core of the "too big to fail" ("TBTF") phenomenon that came to symbolize a recurring pattern of privatizing gains and socializing losses of large financial institutions.[243] Taking away deposit insurance and other forms of public subsidy currently feeding this phenomenon would, accordingly, end the presently intractable TBTF problem.

Again, none of this means that private finance would be forced to disappear or "shrink[ ] into irrelevance."[244] The proposed reform would simply redefine or restore its proper social function. In effect, it would force private finance to conform to its own self-narrative as the realm of pure "intermediation" between private suppliers and users of "scarce" capital.[245] In this sense, the restructuring of the Fed's balance sheet, envisioned here, would allow for a more transparent, fair, and socially beneficial delineation between the properly "private" and the legitimately "public" spheres in modern finance.

By removing the underlying sources of banks' present "specialness" and fragility, the proposed change would also eliminate the need for an intrusive and complex regime of bank regulation and supervision. Thus, both federal deposit insurance and deposit-based bank reserve requirements will become unnecessary. Once banks stop depending on short-term funding of their long-term assets, mandatory liquidity requirements, which were introduced into the Basel Capital Accord in the wake of the 2008 financial crisis, would also become redundant.[246] Bank capital regulation would lose its present salience as the core tool of protecting the deposit insurance fund from losses.[247] And such controversial and complex tools of enhanced macroprudential

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241. *See* Saule T. Omarova, *The "Too Big To Fail" Problem*, 103 MINN. L. REV. 2495, 2500 (2019) (noting that the "expectation that the government will always bail out ["too big to fail"] financial institutions" is internalized by other market participants, becoming an "implicit subsidy" of their risk-taking); *The Unfulfilled Promise*, *supra* note 231, at 1700 ("[I]n practice, it is difficult to draw a clear line and prove that securities firms do not use access to affiliated depository institutions to finance their speculative derivatives activities.").

242. *See* Arthur E. Wilmarth, Jr., *The Dark Side of Universal Banking: Financial Conglomerates and the Origins of the Subprime Financial Crisis*, 41 CONN. L. REV. 963, 1043–46 (2009) (showing how the process of consolidation in the financial industry led to the 2008 financial crisis and necessitated government-sponsored rescue of large financial institutions).

243. Omarova, *supra* note 241, at 2495.

244. Koning, *supra* note 113.

245. For a discussion of the "intermediated-scarce-private-capital" orthodoxy, see *Finance Franchise*, *supra* note 12, at 1146–47.

246. For an overview of Basel III liquidity standards, see BARR ET AL., *supra* note 34, at 327–29.

247. For an overview of bank capital regulation, see *id.* at 291–311; CARNELL ET AL., *supra* note 34, at 238–67.

supervision as, for example, comprehensive stress testing of banks' balance sheets, would likely be eliminated.[248]

Simplifying the notoriously complex regulatory regime governing banking institutions, however, does not mean abandoning all regulation. As long as the sovereign public continues to subsidize any meaningful amount of private money creation, it has to protect its balance sheet by exercising "quality control" over its private franchisees.[249] Familiar tools of macroprudential regulation and supervision—including basic leverage and portfolio concentration limits, credit underwriting standards, certain activity and affiliation restrictions, operational risk management requirements, and so on—would still apply to all QLIs eligible for NDW borrowing. The precise contours of this regulatory regime will depend on, and reflect, the risk profile of the newly reconfigured system. It is nevertheless reasonable to expect that the overall intensity of regulatory oversight would decrease significantly.

This shift would allow for a significant streamlining of the U.S. bank regulatory apparatus. The Federal Deposit Insurance Corporation ("FDIC") would have no practical role to play. All of the continuing prudential oversight and chartering responsibilities can then be consolidated and transferred to the Office of the Comptroller of the Currency ("OCC"), the primary regulator of federally chartered banks.[250] Accordingly, the scope of the Federal Reserve's own formal bank regulatory functions would significantly shrink, if not disappear.[251]

Importantly, the proposed change in the Fed's relationship with private financial firms presents a welcome opportunity for a more effective and proactive deployment of structural regulatory levers. Thus, the Fed could use its control over the flow of federal subsidies by

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248. *See* 12 U.S.C. § 5365(i) (mandating annual stress tests and providing the parameters and consequences for such).

249. *See Finance Franchise*, *supra* note 12, at 1214 (arguing that a major flaw in the current financial system is "continuing public accommodation of private credit-generation . . . without effective public 'quality control' over franchisees' performance of their delegated responsibilities").

250. *What We Do*, OFF. OF THE COMPTROLLER OF THE CURRENCY, https://www.occ.treas.gov/about/what-we-do/index-what-we-do.html# (last visited June 19, 2021) [https://perma.cc/CY65-7G8M]. The OCC could charter the deposit-taking CBIs, discussed above. *See supra* Part III.B (proposing that CBIs could act as the Fed's representative offices in the field and "help the Fed with the day-to-day administration of FedAccounts"). Because QLIs will have direct access to the federal subsidy via the Fed's NDW facility, it also makes sense to retain a special chartering regime for these institutions.

251. Currently, the Fed is the primary federal regulator and supervisor of state-chartered member banks and U.S. BHCs. *See Supervision & Regulation*, BD. OF GOVERNORS OF THE FED. RSRV. SYS., https://www.federalreserve.gov/supervisionreg.htm (last visited June 19, 2021) [https://perma.cc/ESP6-9G5Z] (outlining the Fed's regulatory and supervisory activities).

fine-tuning the NDW eligibility conditions in furtherance of its evolving modulatory and allocative mission. In addition to familiar discount window requirements focused on the quality of pledged collateral, the Fed could mandate a set of other socially desirable attributes that privately extended credit products must have in order to qualify for NDW support. By excluding loans fueling secondary-market financial speculation, leveraged buyouts ("LBOs"), massive stock buybacks, and other private activities that divert resources from socially productive enterprise, the Fed would be able to redefine the scope and nature of QLIs' business operations.[252]

B. Potential Impact on Shadow Banking and Capital Markets

The wholesale migration of deposits to the Fed's balance sheet will also trigger profound changes in the size, structure, and operation of all financial institutions and markets that currently amplify or replicate private banks' money-creation function outside of the regulated banking system.[253] This includes, first and foremost, the "shadow banking" sector.[254] It is important to remember, however, that many key participants in shadow banking markets are regulated financial institutions—securities broker-dealers, investment companies, swap dealers, and so forth—that also operate in the United States and global capital markets.

1. Money Market Mutual Funds

Money Market Mutual Funds ("MMMFs") constitute the most obvious category of financial institutions to be affected by the proposed creation of FedAccounts. MMMFs are open-end investment companies, or mutual funds, that specialize in constructing diversified portfolios of "safe" short-term debt instruments, including U.S. Treasury bills, agency securities, and commercial paper.[255] A product of classic

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252. The QLI charter would also impose entity-level limitations on permissible activities and affiliations, similar to those currently applicable to commercial banks, to further restrict access to the federal subsidy. Any state and local "public banks" eligible to access the NDW facility would be subject to an appropriately modified QLI regime, to reflect their public mission. *See supra* notes 155, 181.

253. *See supra* notes 36–39 and accompanying text.

254. The term "shadow banking" was coined by Paul McCulley, formerly of PIMCO, a global investment management firm. Paul McCulley, PIMCO, *Teton Reflections*, GLOB. CENT. BANK FOCUS 2 (Sept. 5, 2007), http://media.pimco-global.com/pdfs/pdf_sg/GCB%20Focus%20Sept%2007%20SGP-HK.pdf [https://perma.cc/NU6T-6485].

255. MMMFs are regulated by the Securities and Exchange Commission ("SEC") under the Investment Company Act of 1940. *Money Market Fund*, INVESTOR.GOV,

regulatory arbitrage, MMMFs were invented in the 1970s as a higher-return alternative to interest-bearing bank deposits.[256] With certain exceptions, special accounting rules allow MMMFs to maintain the value of their shares at $1.00 per share.[257] Fund investors are thus assured that they can redeem their shares on demand and without losing any value.[258] Check-writing capabilities further enhance the appeal of MMMF accounts as a direct substitute for regular bank accounts.[259] In effect, MMMFs are "shadow banks" in the most direct sense of the word.[260]

Currently, the MMMF industry has well over $5 trillion in assets.[261] MMMFs are major cash lenders in the critically important commercial paper and repo markets. Issuing bank-like on-demand liabilities, however, makes these funds inherently vulnerable to massive, depositor-like investor runs.[262] This combination of factors ultimately necessitates public accommodation and monetization of MMMFs' liabilities—again, in direct parallel to banks.[263]

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https://www.investor.gov/introduction-investing/investing-basics/glossary/money-market-fund (last visited June 19, 2021) [https://perma.cc/Q4SY-LBA7].

256. *Money Market Funds: What Are Money Market Funds?*, INVESTOR.GOV, https://www.investor.gov/introduction-investing/investing-basics/investment-products/mutual-funds-and-exchange-traded-5 (last visited June 19, 2021) [https://perma.cc/3N7S-HZUB]. At the time, the Fed's Regulation Q capped interest rates on deposit accounts. BARR ET AL., *supra* note 34, at 1302.

257. Post-2008, the SEC rules require prime institutional MMMFs to use floating "net asset value" ("NAV") for their shares but continue allowing retail and government MMMFs to maintain stable NAV at $1.00 per share. 17 C.F.R. § 270.2a-7(c)(1) (2021); Money Market Fund Reform; Amendments to Form PF, 79 Fed. Reg. 47736, 47736 (Aug. 14, 2014) (to be codified at 17 C.F.R. pts. 230, 239, 270, 274, 279).

258. If the NAV per share falls below $1.00, the fund is said to "break the buck." In September 2008, The Reserve Primary Fund, the oldest MMMF in the United States, sent global financial markets reeling when it "broke the buck" due to its exposure to Lehman Brothers. Diana B. Henriques, *Money Market Fund Says Customers Could Lose Money*, N.Y. TIMES (Sept. 16, 2008), https://www.nytimes.com/2008/09/17/business/17fund.html?dlbk [https://perma.cc/VB5J-3U5Y].

259. BARR ET AL., *supra* note 34, at 1304.

260. For more on the history, operation, and legal regime governing MMMFs, see *id.* at 1302–24.

261. *Money Market Funds: Investment Holding Details*, BD. OF GOVERNORS OF THE FED. RSRV. SYS., https://www.federalreserve.gov/releases/efa/efa-project-money-market-funds-investment-holdings-detail.htm (last updated June 21, 2021) [https://perma.cc/PR89-SFAW] (click on linked files for data).

262. For a recent assessment of the continuing susceptibility of MMMFs to runs and the limited success of the post-2008 reforms in addressing structural vulnerabilities in the MMMF market, see PRESIDENT'S WORKING GRP. ON FIN. MKTS., U.S. DEP'T OF THE TREASURY, OVERVIEW OF RECENT EVENTS AND POTENTIAL REFORM OPTIONS FOR MONEY MARKET FUNDS 3–4 (2020), https://home.treasury.gov/system/files/136/PWG-MMF-report-final-Dec-2020.pdf [https://perma.cc/T6GR-X9A9].

263. This public support becomes explicit and visible in times of crisis. Thus, in September 2008, the Treasury intervened to stop the run on MMMFs by guaranteeing investor balances against losses of up to $50 billion. BARR ET AL., *supra* note 34, at 1315. The Fed, in turn, used its emergency powers to set up the first Money Market Mutual Fund Liquidity Facility ("MMLF"),

These functional parallels explain why and how the creation of FedAccounts would disrupt the MMMF business model. Non-defaultable, interest-bearing sovereign money would render MMMFs a lot less attractive to investors seeking liquidity and safety. Without an ability to arbitrage between two forms of privately issued money (bank deposit-money and MMMF "shadow" money), the original rationale for the existence of an MMMF as a financial product would no longer exist. Instead of functionally replicating bank deposit services, MMMFs would likely revert to a traditional mutual fund business model and offer straightforward *investment* products. In effect, MMMFs would operate as a subset of conservative-allocation credit funds: they would continue investing in liquid short-term public and private debt instruments—including corporate commercial paper—and manage their pools of assets so as to minimize risk to investors.[264] Though relatively stable and low risk, MMMF shares will no longer be structured or perceived as *risk free*.

In consequence, the size and systemic significance of the MMMF industry would decrease substantially. This would, in turn, significantly impact commercial paper and repo markets currently dependent on MMMFs as principal cash lenders. MMMFs' partial withdrawal would contribute to the corresponding "downsizing" and de-risking of these markets.

2. Commercial Paper and Repo Markets

Commercial paper is a short-term, unsecured debt instrument issued by large, creditworthy corporations to finance their short-term business expenses.[265] These attributes generally render it a low-risk investment. In the lead up to the 2008 crisis, however, commercial paper markets grew dramatically as a result of a massive rise in financial firms' issuances and "asset-backed commercial paper"

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funding bank purchases of MMMFs' assets. *Id.* In March of 2020, the Fed reinstituted its MMLF facility as part of its response to the COVID-19 crisis. *See supra* note 71 and accompanying text (noting how the Fed's emergency response replicated some of the emergency programs created for the 2008–2009 crisis, including the MMLF); *see also* BD. OF GOVERNORS OF THE FED. RSRV. SYS., REPORT ON THE FEDERAL RESERVE'S BALANCE SHEET 11 (2020), https://www.federalreserve.gov/publications/files/balance_sheet_developments_report_202008.pdf.pdf [https://perma.cc/HH8L-XJ9Z] ("From March 23 to 27 (the first week of operations), 568 loans were extended to six financial institutions that purchased assets from 102 different money market mutual funds totaling $45 billion.").

264. MMMFs would also be able to invest in the NIA bonds as an additional "safe" asset class. *See supra* Part IV.A.2 (summarizing the proposal to create the NIA).

265. To qualify for an exemption from the registration requirements of the Securities Act of 1933, commercial paper must mature in no more than 270 days and its proceeds must be used only to pay for the issuers' short-term expenses, such as payroll or inventory purchases. 15 U.S.C. § 77c(a)(3); BARR ET AL., *supra* note 34, at 1341.

("ABCP").[266] These new forms of commercial paper carried high levels of risk and channeled low-cost funding into speculative trading activities in financial markets.[267] In September 2008, investor runs on ABCP and financial-firm commercial paper effectively cut off the flow of short-term credit to the real economy, thus significantly exacerbating the systemic crisis.[268]

In the post-2008 era, the share of commercial paper—and especially ABCP—in the U.S. wholesale funding markets declined well below its pre-crisis peak levels.[269] Currently, the U.S. commercial paper volume remains at slightly over $1 trillion.[270] Most of it, however, continues to be issued by financial firms, suggesting strong linkages to trading activities.[271] The reform of the Fed's balance sheet, advocated here, offers an opportunity to strengthen this market by restoring its original function as an efficient channel of financing the real economy—as opposed to fueling financial speculation. Thus, smaller and more risk-averse MMMFs would likely be already incentivized to invest mainly in low-risk commercial paper issued by non-financial firms. The Federal Reserve could create an additional incentive to do so by accepting high-quality commercial paper issued by *non-financial* firms as collateral for its NDW loans.[272] This would enable QLIs to increase their holdings of commercial paper instruments tied to *productive* activities in the *real* economy—and, indirectly, make these instruments more attractive for MMMFs and other institutional investors.

For financial firms, the repo market would remain the key source of short-term funding.[273] Structured as securities sales, repos are

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266. *See* Mary Brown, *Asset-Backed Commercial Paper Carries High Risk*, INVESTOPEDIA, https://www.investopedia.com/articles/bonds/08/commercial-paper.asp (last updated Mar. 20, 2021) [https://perma.cc/8WCU-RKJD] (explaining the dynamics of ABCP markets).

267. *Id.*; BARR ET AL., *supra* note 34, at 1341–43.

268. *See* Daniel Covitz, Nellie Liang & Gustavo A. Suarez, *The Evolution of a Financial Crisis: Collapse of the Asset-Backed Commercial Paper Marke*t, 68 J. FIN. 815, 818–19 (2013) (documenting the "run" on ABCP); Marcin Kacperczyk & Philipp Schnabl, *When Safe Proved Risky: Commercial Paper During the Financial Crisis of 2007–2009*, 24 J. ECON. PERSP. 29, 40–41 (2010) (noting that "within one month after Lehman's bankruptcy, commercial paper holdings fell from 24.2 to 16.9 percent of money market funds' assets").

269. In large part, this is due to stricter post-crisis accounting treatment of ABCP which made it harder for the sponsoring entities to keep these vehicles off their balance sheets. BARR ET AL., *supra* note 34, at 1343.

270. *US Money Market Instruments Statistics*, SIFMA (June 10, 2021), https://www.sifma.org/resources/research/us-money-market-instruments-statistics/ [https://perma.cc/9ZWQ-UJBR].

271. *See* BARR ET AL., *supra* note 34, at 1341 ("Most commercial paper is financial or ABCP.").

272. *See supra* Part IV.A.1 (discussing the NDW collateral eligibility requirements).

273. *See* Adam Copeland, Darrell Duffie, Antoine Martin & Susan McLaughlin, *Key Mechanics of the U.S. Tri-Party Repo Market*, FED. RSRV. BANK OF N.Y. ECON. POL'Y REV. 3 (2012), https://www.newyorkfed.org/medialibrary/media/research/epr/2012/1210cope.pdf [https://perma.cc/BRW9-XSS2] ("MMFs, securities lenders, and other institutional cash

economically equivalent to very short-term (often, overnight) loans collateralized by securities, such as Treasury bonds.[274] In recent decades, the U.S. repo market grew dramatically in size and systemic significance, with the average daily amount of outstanding repo transactions currently around $4 trillion.[275]

Securities dealers are central players in repo markets. Dealers use repos to finance their market-making and trading operations, as well as those of their clients: hedge funds, asset managers, and other institutional investors.[276] Repos provide dealers and fund managers with low-cost funding for taking leveraged positions in Treasury bonds, agency and various asset-backed securities, corporate bonds, and other tradable instruments.[277] Thus, through a complex web of institutional arrangements, repo markets continuously fuel the growth in the volume and velocity of trading in secondary financial markets.[278]

MMMFs are major cash lenders in repo markets; they use repo transactions as a presumably "safe" source of increasing returns on their cash holdings.[279] As all demand-deposit substitutes, however, repos are inherently vulnerable to runs.[280] Thus, in 2008, a massive "run on the repo" was one of the principal triggers of the financial crisis.[281] Despite the post-crisis efforts to address some of the key risks

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providers . . . seek interest income at short maturities [because] overnight repos serve as a secured alternative to bank deposits. Together, MMFs and securities lenders account for over half of tri-party repo lending.").

274. *See supra* note 60 (defining the term "repo").

275. *See* Katie Kolchin, Justyna Podziemska & Ali Mostafa, *US Repo Fact Sheet*, SIFMA RSCH. 6 (Jan. 2021), https://www.sifma.org/wp-content/uploads/2020/04/2021-US-Repo-Fact-Sheet.pdf [https://perma.cc/6DTL-SM4D] (noting that the "[a]verage daily aggregate repo and reverse repo outstanding" is $4.6 trillion). For data on centrally cleared repo transactions, see *OFR Short-Term Funding Monitor*, OFF. OF FIN. RSCH., https://www.financialresearch.gov/short-term-funding-monitor/ (last visited June 20, 2021) [https://perma.cc/S5A8-2HXV].

276. *See* Kolchin et al., *supra* note 275, at 5 (using a diagram to show the significant role of securities dealers in repo markets).

277. *Id.* at 4.

278. For more on these dynamics, see *Finance Franchise*, *supra* note 12, at 1178–81.

279. *See* Jeffrey Cheng & David Wessel, *What Is the Repo Market, and Why Does It Matter?* BROOKINGS (Jan. 28, 2020), https://www.brookings.edu/blog/up-front/2020/01/28/what-is-the-repo-market-and-why-does-it-matter/ [https://perma.cc/FXD6-7B4G] ("[Repo markets] allow[ ] parties with lots of spare cash (e.g. money market mutual funds) to earn a small return on that cash without much risk, because securities, often U.S. Treasury securities, serve as collateral.").

280. *Cf.* BARR ET AL., *supra* note 34, at 1313 ("Because MMFs have a liquidity mismatch by transferring illiquid instruments like commercial paper to liquid MMF shares, there will always be a possibility of a run on MMFs.").

281. In September 2008, the failure of Lehman Brothers, a major repo borrower, caused a massive run on repo markets, which triggered the run on MMMFs and paralyzed U.S. commercial paper markets, as discussed above. *Supra* note 268 and accompanying text.

in repo markets, they continue to experience periods of high instability, necessitating major cash injections by the Fed.[282]

The Fed's actions highlight the repo markets' role as direct sites of money creation.[283] In fact, since 2008, the Federal Reserve has been using repo operations as the key tool of managing the benchmark federal funds rate.[284] This shift in the Fed's monetary policy reflects the underlying shift in the financial system's center of gravity away from the traditional banking and capital markets and into the inherently volatile and privately controlled repo market.[285] Without a deeper understanding of how this transformation alters the traditional relationships among core financial markets and actors, however, the Fed's ability to conduct an effective monetary policy may be severely compromised.[286]

The creation of FedAccounts, discussed above, would give the Fed an entirely new set of tools for achieving its monetary policy goals in a more direct and finely tuned manner.[287] Accordingly, the Fed would not need to engage in massive repo operations to fulfill its policy mandate—nor would it have to provide a de facto liquidity guarantee

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282. *See* Joe Rennison & Colby Smith, *Fed Curbs Repo Volatility on Final Day of 2019*, FIN. TIMES (Dec. 31, 2019), https://www.ft.com/content/4a936f9a-2bd3-11ea-a126-99756bd8f45e [https://perma.cc/Q7SP-9RJG] (reporting multiple spikes in repo rates throughout 2018 and 2019 and stating that the FRBNY "provided $25.6bn in overnight funding on December 31[, 2019]").

283. *See* Manmohan Singh, *Collateral and Monetary Policy* 11–12 (Int'l Monetary Fund, Working Paper No. WP/13/186, 2013) (analyzing the role of repo collateral as a monetary phenomenon); Manmohan Singh & Peter Stella, *Money and Collateral* 15 (Int'l Monetary Fund, Working Paper No. WP/12/95, 2012) (examining the monetary effects of reusing repo collateral); Manmohan Singh, *The Velocity of Pledged Collateral: Analysis and Implications* 4 (Int'l Monetary Fund, Working Paper No. WP/11/256, 2011) (showing how nonbanks' reuse of collateral increases its "velocity"); *Finance Franchise*, *supra* note 12, at 1179–80.

284. *See supra* note 61 and accompanying text (explaining that the Fed's repo operations keep the key "federal funds rate" around the target established by the FOMC); *see also* Michael Ng & David Wessel, *The Hutchins Center Explains: How the Powell Fed Will Raise Interest Rates*, BROOKINGS (Mar. 15, 2018), https://www.brookings.edu/blog/up-front/2018/03/15/the-hutchins-center-explains-how-the-powell-fed-will-raise-interest-rates/ [https://perma.cc/TM27-UEWE] (explaining that, after the federal funds rate hit zero in 2008 and the economy still needed more stimulus, the Fed could no longer use open market operations to influence short-term interest rates); Jane E. Ihrig, Ellen E. Meade & Gretchen C. Weinbach, *Monetary Policy 101: A Primer on the Fed's Changing Approach to Policy Implementation*, BD. OF GOVERNORS OF THE FED. RSRV. SYS. 20 (June 30, 2015), https://www.federalreserve.gov/econresdata/feds/2015/files/2015047pap.pdf [https://perma.cc/KYL6-28PN] (showing how the Fed's pre-crisis strategy based on reserve scarcity is ineffective under today's conditions of "superabundant" reserves in the banking system).

285. *See* Carolyn Sissoko, The Collateral Supply Effect on Central Bank Policy 9 (Aug. 21, 2020) (unpublished manuscript), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3545546 [https://perma.cc/GA4A-769R] (analyzing the increasingly critical role of the repo market in monetary policy transmission).

286. *Id.*

287. *See supra* Part III.A (outlining the FedAccounts proposal and its various benefits).

for repo markets.[288] The Fed's withdrawal, in turn, would reduce the size and systemic footprint of the repo markets.[289]

Partial withdrawal of MMMFs, as a result of the fundamental change in their own business model, would have a similar effect on repo markets. Smaller, more conservative MMMFs would have strong incentives to manage and price their risk exposures to repo borrowers more carefully. Securities dealers would still be able to finance their trading asset portfolios in repo markets, but not on the present scale and without the benefit of the Fed's monetization and accommodation.[290] This would mean, in turn, less leveraged financing for hedge funds and other entities engaged in speculative trading. In short, the repo markets will revert to being a much smaller, specialized segment of the financial system, rendering the system itself both less complex and more stable.

3. Securitizations and Derivatives

Like the repo and commercial paper markets, securitizations and derivatives markets would continue to operate but on a smaller scale, and in a significantly less risky way, than they do today.

Securitization is a technique of pooling revenue-generating assets, such as receivables or mortgage loans, and using the pooled assets as collateral backing the issuance of debt instruments—"asset-backed securities" ("ABS") or "mortgage-backed securities" ("MBS")—to investors.[291] Banks typically securitize their loans to free up balance sheet capacity for further credit extensions.[292] To investors, securitization offers a valuable ability to buy bonds "structured" to achieve their preferred risk-return profile.[293] And borrowers generally benefit from the increased flow and lower price of credit.[294] As the 2008 crisis has shown, however, the complexity and opacity of highly structured, often multilayered, securitized products—especially once they get deeply embedded in commercial paper and repo markets—are

288. *See Finance Franchise*, *supra* note 12, at 1181 (noting that the FRBNY is "currently the largest counterparty in repo markets" and that "[p]ublic debt—U.S. Treasury and Agency securities—still constitutes the principal underlying asset on which repo transactions occur").

289. The Fed may continue conducting repo operations but on a smaller scale and in pursuit of specific public policy goals.

290. On the dynamics of such accommodation and monetization, see *Finance Franchise*, *supra* note 12, at 1181–83.

291. *Id.* at 1175–76.

292. *Id.* at 1176.

293. Ability to use ABS as collateral in repo transactions further increases their value to institutional investors.

294. *See* Steven L. Schwarcz, *The Alchemy of Asset Securitization*, 1 STAN. J.L. BUS. & FIN. 133, 136–38 (1994) (explaining how securitization lowers the borrower's cost of capital).

a major source of risk to the stability of the financial system.[295] It is, therefore, critical to limit securitization's potential to create or amplify socially undesirable speculative trading.

The reforms outlined in this Article will help to achieve this policy goal. The NDW conditionality would be an especially potent lever in this respect. Thus, to limit direct access to public subsidy, the Fed could exclude all ABS from its definition of NDW-eligible collateral. Under this regime, QLIs would still be able to obtain low-cost funding for the underlying loans that meet the Fed's NDW conditions—and to securitize their riskier "non-qualifying" assets in private markets. Without public subsidy, securitization transactions would be subject to market discipline. ABS investors would have every incentive to conduct due diligence on the underlying asset portfolios, thus actually performing their presumed information-producing, valuation, and monitoring functions. This should significantly reduce the size of private securitization markets and lower the overall levels of non-transparent risk and complexity in them. Diminished demand for ABS issuances as a result of parallel downsizing and de-risking in repo and commercial paper markets, discussed above, would further contribute to these trends.

Derivatives markets would undergo similar changes under the proposed regime. Derivatives are contingent claim contracts that determine counterparties' payout and other rights and obligations by reference to some underlying value.[296] Historically, derivatives were used as tools of hedging risk.[297] In the years leading to the 2008 crisis, however, bespoke derivatives markets grew dramatically in size and capacity to generate undetected financial risks.[298] Regulatory

295. *See* Larry Cordell, Greg Feldberg & Danielle Sass, *The Role of ABS CDOs in the Financial Crisis*, 25 J. STRUCTURED FIN. 10, 15 (2019) (noting that "of the lower-rated investment-grade tranches of ABS CDOs, 75% were sold into or referenced as CDS in other ABS CDOs"); Larry Cordell, Yilin Huang & Meredith Williams, *Collateral Damage: Sizing and Assessing the Subprime CDO Crisis* 38 fig.1 (Fed. Rsrv. Bank of Phila., Working Paper No. 11-30/R, 2012), https://www.philadelphiafed.org/-/media/frbp/assets/working-papers/2011/wp11-30r.pdf?la=en [https://perma.cc/F95G-8BMD] (illustrating the process of transforming mortgage loans into multilayered, securitized products). For a comprehensive analysis of the systemically destabilizing rise of "private-label" securitizations, see LEVITIN & WACHTER, *supra* note 232, at 163–80.

296. *See generally* JOHN C. HULL, OPTIONS, FUTURES, AND OTHER DERIVATIVES (9th ed. 2014); R. STAFFORD JOHNSON, INTRODUCTION TO DERIVATIVES: OPTIONS, FUTURES, AND SWAPS 1–10 (2009) (providing a brief overview of the derivatives market's origins and operation).

297. *See* JOHNSON, *supra* note 296296, at 1 (describing the early historical uses of derivatives by farmers seeking to manage their storage costs and pricing risk).

298. *See, e.g.*, *The Role of Derivatives in the Financial Crisis: Hearing Before the Fin. Crisis Inquiry Comm'n*, 111th Cong. (2010) (testimony of Michael Greenberger, Professor, University of Maryland School of Law) (describing the role of the unregulated over-the-counter derivatives market in fomenting the financial crisis of 2008).

expansion of U.S. banks' permissible derivatives activities[299] and the 1999 repeal of the Glass-Steagall prohibition on their ability to affiliate with nonbank financial firms were major drivers of this growth.[300] The subsequent wave of conglomeration and consolidation in the financial sector has led to the emergence of global derivatives dealer-banks, able to use their access to public subsidy to underwrite vast amounts of risky speculative bets.[301] In the wake of the 2008 crisis, Congress sought to preclude insured banks from dealing and trading in derivatives, but these efforts were later substantially curtailed as a result of industry lobbying.[302]

Once banks lose their "special" status as monetary institutions, however, the principal economic and regulatory incentives for organizational affiliation with banks will disappear.[303] Derivatives dealers would not be able to take on as much risk as they do under the current system, and their diminished risk-bearing capacity would affect both the quantity and the quality of their derivatives "books." The fall in their clients' demand for risky derivatives would further decrease the overall volume of speculative trading in derivatives and related markets. In short, these markets would become what they *ought* to be: relatively small and sophisticated private markets for prudent and appropriately priced risk management products.

4. Securities Firms

The proposed restructuring of the Fed's balance sheet would also alter the structure and dynamics of broader capital markets and securities firms operating in them as broker-dealers, investment bankers, asset managers, derivatives dealers, and other "intermediary" types.

By performing multiple roles in various transactional contexts, securities firms effectively drive the functional integration of banking,

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299. *See* Saule T. Omarova, *The Quiet Metamorphosis: How Derivatives Changed the "Business of Banking,"* 63 U. MIAMI L. REV. 1041, 1056 (2009) (examining the process through which the OCC granted and then gradually expanded the authority of U.S. banks to trade and deal in derivatives).

300. *See supra* note 36 (discussing the repeal of the Glass-Steagall Act).

301. Thus, a common practice within the FHC structure is to have securities firms enter into derivatives trades with hedge funds and other clients and then mirror the same trades with their affiliated banks, which end up holding the exposure on their balance sheets. This intra-group arbitrage significantly lowers the cost of derivatives trading and dealing to the FHC. *Finance Franchise*, *supra* note 12, at 1196–97.

302. *Id.* at 1197–98 (describing the "swap push-out" provisions of the Dodd-Frank Act).

303. *See supra* Part V.A (arguing that the loss of banks' "special" status and privileged access to the public subsidy will erode their current appeal as acquisition targets for other financial institutions).

shadow banking, and long-term capital markets. Today, securities broker-dealers provide large amounts of margin financing for their trading clients, such as hedge funds, enabling them to leverage their positions across a wide variety of financial assets.[304] They also structure and deal in complex OTC derivatives, pool and securitize multiple layers of loans and other credit products, and act as repo lenders for their clients.[305] Dealer-firms finance the bulk of these activities by issuing commercial paper and borrowing cash in repo markets, often by rehypothecating their clients' securities.[306]

In short, securities dealers continuously fuel the ever-increasing volumes of trading in secondary financial markets—and the accompanying growth in the system-wide levels of leverage, risk, and interconnectedness. As emphasized throughout this discussion, the critical factor enabling securities firms to conduct these activities on such a massive scale is their institutional affiliation with federally insured banks.[307] Through organizational attachment to banks, securities dealers gain access to—and a significant degree of *de facto* control over—the flow of the sovereign public's full faith and credit powering the financial system.[308] In an important sense, this makes securities dealer-firms the quintessential rogue franchisees.[309]

Recent attempts to reinstitute the Glass-Steagall regime of formal separation between banking and securities firms proved unsuccessful.[310] The reforms outlined in this Article, by contrast, would help to achieve the same substantive result indirectly, by fundamentally reshaping the basic dynamics of the financial market from within. Simply taking away private banks' *monetary* function will end their currently privileged position in the financial system—and

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304. "Margin trading" is the practice of borrowing money to purchase securities or other financial assets, which are then used as collateral securing the loan extended to the trading account holder by the broker-dealer. *See* Randy Frederick, *Margin: How Does It Work?*, CHARLES SCHWAB (Feb. 12, 2021), https://www.schwab.com/resource-center/insights/content/margin-how-does-it-work [https://perma.cc/SVP6-XP4P] (providing an overview of the mechanics of margin trading).

305. *Finance Franchise*, *supra* note 12, at 1193–1201.

306. On rehypothecation dynamics, see *Finance Franchise*, *supra* note 12, at 1178–81.

307. *See supra* Part V.A (emphasizing the role of implicit public subsidy as the principal impetus for the rise of diversified financial conglomerates).

308. *Finance Franchise*, *supra* note 12, at 1194–96.

309. *See supra* notes 36–39 and accompanying text (describing "rogue" franchisees as nonbank financial institutions whose liabilities are directly or indirectly accommodated by the central bank).

310. Omarova, *supra* note 241, at 2531–32. For a comprehensive, historically grounded analysis of the Glass-Steagall regulatory regime and an argument for reviving it, see ARTHUR E. WILMARTH, JR., TAMING THE MEGABANKS: WHY WE NEED A NEW GLASS-STEAGALL ACT (2020).

remove the presently overpowering incentive for securities firms to seek direct institutional affiliation with banks.[311]

No longer being able to tap into the public subsidy would directly affect securities dealers' capacity both to take on highly leveraged proprietary positions and to enable leveraged investing by their clients. As noted earlier, margin loans would not be eligible for the NDW funding.[312] Without a banking affiliate as the captive source of credit, the dealer-firm would be limited in its ability to funnel large amounts of low-cost funding into its clients' margin accounts. The overall tightening of the repo and commercial paper markets, discussed above, would further constrain securities firms' access to cheap financing. Diminished supply and increased cost of funding would force securities dealers to scale back their trading inventories, risk exposure, and overall leverage. Among other things, that would lead to a significant fall in speculative trading by hedge funds and other entities that currently rely on leveraged financing provided by securities firms.

In addition to these institutional constraints, private actors' ability to engage in socially harmful speculation would be curtailed as a result of the broader structural reforms outlined above. Thus, the Fed's new market-making operations—OMO Plus—would effectively preclude many opportunities for profitable short-term gambling in financial markets.[313] The creation of the NIA, on the other hand, would expand the menu of productive long-term investment options available to large institutional investors, thus diverting their money away from risky assets and directional bets.[314]

In this environment, securities broker-dealers and asset managers would cease being predominantly and necessarily *scale*-based businesses, as measured by their balance sheets or assets under management. Instead of leveraging their credit-generation capacity and market power, these firms would go back to competing on the bases of their superior risk assessment and management capabilities and ability to serve their real-economy clients' needs efficiently and nimbly. In other words, they would revert to their original business model of relational, skill-based investment advice, securities underwriting, and transaction facilitation.[315] And most of their business would refocus on

311. *See supra* Part V.A (reasoning that, without the federal subsidy attached to demand deposits, banks' riskier investments and activities will be directly subject to market discipline).

312. *See supra* Part IV.A.1.

313. *See supra* Part IV.A.3 (describing the proposed OMO Plus program).

314. *See supra* Part IV.A.2 (outlining the NIA's role as a credit institution and fund manager).

315. *See* ALAN D. MORRISON & WILLIAM J. WILHELM, JR., INVESTMENT BANKING: INSTITUTIONS, POLITICS, AND LAW 4–7 (2007) (describing the traditional role of investment banks as "managing an information marketplace").

primary markets for capital, where their intermediation services would be more directly conducive to long-term growth of the U.S. economy.

It is difficult to foresee all of the potential implications of this shift for the structure and operation of capital markets. It is reasonable to expect, for instance, that many securities firms would choose to operate as traditional partnerships.[316] At the same time, technological changes may enable the emergence of new patterns of organizational and functional integration in the financial industry. These developments would require careful examination and appropriate policy responses as they arise.

For now, the key is to show that the proposed restructuring of the Federal Reserve's balance sheet would fundamentally alter the systemic dynamics of finance. Eliminating private banks' deposit-taking function and giving the Fed new asset-side tools of shaping economy-wide credit flows, as discussed above, will dramatically reduce the levels of speculative activity in secondary markets for financial instruments. It will, accordingly, render financial markets less risky, less complex, and more manageable sites of private "intermediation," as opposed to unauthorized credit-generation. The precise size and composition of these markets will depend on the supply of, and actual demand for, private financing of productive economic enterprise. It will stop being a function of nonbanks' ability to tap into the full faith and credit of the United States. In that sense, the People's Ledger will simply restore the traditionally central role of private ordering and risk-taking in private finance. It will return the markets to their original state of "freedom."

CONCLUSION

This Article offers a blueprint for reshaping the basic architecture and dynamics of modern finance. Using the creation of digital-dollar FedAccounts as its starting point, the Article constructs a coherent set of structural reforms aiming to make the financial system more inclusive, efficient, and stable. It contemplates a comprehensive update of the Federal Reserve's balance sheet—the nation's core economic ledger—to maximize its structural capacity to support productive economic enterprise, in the long-term interests of the American people. In effect, it reimagines the role of a central bank as the ultimate public platform for generating, modulating, and allocating financial resources in a modern economy—the People's Ledger.

316. *Id.* at 15–16.

The vision presented in this Article is inherently modular: most individual reforms outlined here can be implemented on a standalone basis. Thus, technically speaking, CBDC issuance is neither necessary for nor fundamentally dependent on the creation of the NIA or the OMO Plus facility. Each of these ideas has its own policy rationale and potential to generate substantial public benefits. Nevertheless, as the Article shows, an integrated approach to democratizing finance would enable us to unlock tremendous synergies among these proposals and magnify their beneficial effects.

The People's Ledger framework embodies precisely this type of a cohesive reform agenda. Putting it in action would profoundly change the organization and essential dynamics of the financial system. Needless to say, many details of this multifaceted systemic redesign require further thinking and analysis. The proposal will undoubtedly invite numerous questions and criticisms this Article does not claim to answer or preempt. As stated from the outset, the Article is meant to be a synthesizing, boundary-defining exercise. Its goal is not to repackage or refine familiar prescriptions but to expand the scope—and to sharpen the focus—of the currently fragmented public debate on what "democratizing finance" means in today's complex world.

Doing so is especially urgent in light of the ongoing digitization of finance, which includes rapid proliferation of privately issued digital money and privately run digital payments systems. Notwithstanding their rhetoric of democratization, these technologies threaten to undermine the fundamental balance of the sovereign public's and private actors' relative powers and roles in the financial system.[317] As decades-old institutional arrangements come under increasing pressure, what replaces them becomes a matter of utmost public policy importance. This Article offers a unified set of structural solutions to this all-important structural challenge.

317. *See generally* Saule T. Omarova, *New Tech v. New Deal: Fintech as a Systemic Phenomenon,* 36 YALE J. ON REGUL. 735 (2019) (arguing that new technology threatens to increase private financial institutions' ability to over-generate risk and leverage in the financial system, without the corresponding increase in the public's ability to control that process); Saule T. Omarova, *Technology v Technocracy: Fintech as a Regulatory Challenge*, 6 J. FIN. REGUL. 75, 76 (2020) ("While new technologies can make financial services more efficient and widely accessible, they can also amplify the system's currently dysfunctional dynamics of excessive generation and speculative misallocation of credit and money.").